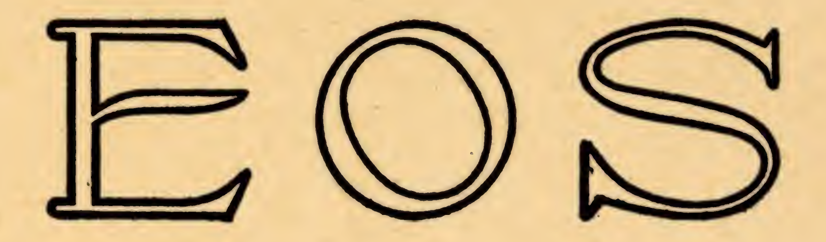
CONSEJO SUPERIOR DE INVESTIGACIONES CIENTIFICAS

TOMO XXXIV 31 DICIEMBRE 1958 CUADERNO 4.º



REVISTA ESPAÑOLA DE ENTOMOLOGIA



INSTITUTO ESPAÑOL
DE
ENTOMOLOGÍA
MADRID
1958

EOS

REVISTA ESPAÑOLA DE ENTOMOLOGIA

Publicada por el Instituto Español de Entomología
Aparece por cuadernos trimestrales, que forman cada año un volumen

Suscripción anual.—España: 90 ptas. Extranjero: 180 ptas.
Números sueltos.—España: 25 ptas. Extranjero: 50 ptas.

Administración:

CONSEJO SUPERIOR DE INVESTIGACIONES CIENTIFICAS
Duque de Medinaceli, 4, Madrid.

Toda la correspondencia relacionada con la Redacción deberá dirigirse al

SR. SECRETARIO DE LA REVISTA "EOS",
INSTITUTO ESPAÑOL DE ENTOMOLOGÍA
PALACIO DEL HIPÓDROMO
Gutiérrez Abascal, 2
MADRID, 6

El ortóptero representado en la portada es el blátido *Phyllodromica (Lobolampra) carpetana* (I. Bol.), ♂. Pto. Navacerrada: × 4,5.

Revision of the group *Portheti*
(Orthoptera, Acridoidea)

BY

V. M. Dirsh.
Anti-Locust Research Centre.
(London.)

Introduction.

The group *Portheti,* is a section of the family *Pamphagidae* very well defined morphologically by the presence of stridulatory specialisation of the elytra, which does not occur in other members of the family, and by other characters (see diagnosis of the group).

During the revision of the group, it was found that some genera were rather heterogeneous and they had to be divided into several genera, some of them new. Some species, according to their characters, had to be transferred to other than the original genera.

The majority of the existing specific types were directly compared, which enabled me to synonymize some of the species when their identity was doubtless. In cases of apparently very similar species known from single types, or only from a few specimens, it was often difficult to decide whether this was a case of individual variability or a small but stable specific difference, and I refrained from synonymizing them until more material would be available.

In all cases when a species was described from several specimens, the type and, when possible, the allotype is designated. The types of some species are lost and their descriptions, without figures, are so inadequate that the names remain a dead weight. Even worse cases occur, when a species was described from a single type, which still exists, but is a nymph (often damaged), so that it is impossible even to place it into appropriate genus. A list of such "dead" names is given on p. 399.

Both sexes of all the studied species, and when possible the type and the allotype, are figured.

All studied types were remeasured and the measurements are sometimes slightly different from those in the original description, pro-

bably as a result of error or of difference of instruments; in this work a precisely calibrated calliper was used.

In addition to the usual external characters, two more are introduced for the differentiation of genera and species: the epiphallus and the apical valves of penis, both characters being easily accessible for the purpose of determination. In some cases they offer excellent specific characters, but sometimes the external characters appear more reliable. However, these characters, like the external ones, are subject to individual variation.

The references under the genera and species recorded below are concerned only with different names. Incorrectly used names and full references to genera and species will be found in Johnston's *Annotated Catalogue of African Grasshoppers,* 1956 (except *S. arabica* Uvarov, which is not mentioned in the Catalogue not being African).

The type localities quoted below are as they are written and spelt on the original labels of the types, or, if the type was not examined, as in the original description.

Acknowledgements.

The material for the present study came from the following Museums and persons to whom I am greatly indebted.

The British Museum (Natural History): Walker's, Kirby's, Saussure's, Uvarov's types and some unidentified material; the Stockholm National Museum of Natural History, by courtesy of Dr. R. Malaise: Stål's and Sjöstedt's types; Geneva Museum, by courtesy of Dr. C. Ferriere: Saussure's types; Vienna Museum of Natural History, by courtesy of Dr. M. Beier: Saussure's types; Berlin, Zoological Museum of the University, by courtesy of Dr. H. Schiemenz: Gerstaecker's and Schaum's types; Leiden State Museum of Natural History, by courtesy of Dr. A. N. Diakonof: Stoll's type; The Spanish Institute of Entomology, Madrid, by courtesy of Mr. E. Morales Agacino: I. Bolivar's types; Transvaal Museum, Pretoria, by courtesy of Dr. G. Van Son: material including new genera and species; the South Rhodesian Museum, by courtesy of Mr. E. Pinhey: material including new species.

I am most grateful to Dr. B. P. Uvarov for his valuable help in difficult taxonomic problems.

Variability of the species.

Only few species were represented by large series collected from the same limited locality. These series vary rather widely and even such essential characters as the shape of pronotum, antennal segments and hind femur may vary in great extent. The fragmentary material of other genera and species also suggests that great variability exists. It is probable that all species of the group form many, morphologically slightly different, local populations and races and only large series from the whole area of a species may help to estimate their taxonomic value. At present, when many species are represented by a single type or by a few specimens, it is difficult to decide whether it is a species or a local race. Such cases occur in almost every genus, particularly in *Lamarckiana, Lobosceliana* and *Hoplolopha,* and a conservative attitude was adopted towards them.

Sexual dimorphism.

The sexual dimorphism in species of the group represents a gradual scale from the greatest one to its almost complete absence.

The greatest dimorphism may be found in the genera *Lamarckiana, Lobosceliana* and *Xiphoceriana.* The males are much smaller, with slender body, macropterous or brachypterous, sometimes with rather differently shaped pronotum and less widened margins of hind femora. Females are much larger, with much more robust body, strongly or moderately inflated in meso- and metathoracic region, and completely apterous. Males have excellent stridulatory organs, females - none. Sculpture or the integument in males is usually less prominent and always matt; in females almost always more rough, though some females have almost smooth and slightly shiny body surface.

In the genera with brachypterous males and apterous females, gradual decrease in sexual dimorphism may be observed. The difference in size of the body becomes less, and the structural characters are more similar in both sexes. *Cultrinotus* is a good example of such genus, and the same is observed, to a lesser extent, in some other genera, including *Hoplolopha.*

In *Trachypetrella* sexual dimorphism is almost absent: both sexes have elytra of the same relative size and shape and the same stridulatory organ, differing only in the size of body and in genital organs.

Interrelation with the other groups of the family.

Very little can be said about the connection of the group *Portheti* with other groups and genera of *Pamphagidae* occurring in the same area. The endemic South African genera *Adephagus* and *Akicera* have no similar stridulatory organ, and the structure of pronotum and hind femur and wing venation are different. It is even less possible to connect *Portheti* with another endemic S. African group of genera - *Batrachotetrix, Eremotettix* and *Batrachornis,* or with the aberrant group of genera, which includes *Geloiomimus, Thrincotropis* and *Echinotropis.* There is a possible affinity with the genus *Bolivarella,* a little studied genus from Angola, with crested pronotum and spined margins of hind femur as in the group *Portheti,* but without stridulatory specialisation of elytra.

Saussure (1887, *Spic. Ent. Gen.:* 73) suggested that the Asiatic genus *Tropidauchen* is "an African strayed to the Orient and, so to speak, still incompletely adapted to the characteristic forms of the region". It is an open question, whether the general similarity of the shape is due to a real affinity between the group *Portheti* and *Tropidauchen* or to a convergent response to similar ecological conditions, as is frequently observed in Acridoidea. The characters which the majority of *Portheti* have in common with *Tropidauchen* are crested pronotum and spined margins of the hind femur. Unfortunately there is no possibility to apply the main character of the group *Portheti,* the specialised venation of elytra to *Tropidauchen* in which males are apterous, or with only vestigial elytra. Krauss's organ is indistinct in *Tropidauchen* and distinct in *Portheti.* Phallic complex does not offer proof of their affinity; the epiphallus in *Tropidauchen* is rather similar to that of the genus *Hoplolopha,* being elongated and with wide strongly projecting posterior margin, but the rest of the phallic complex is different: apical valves of penis are not at all serrated; its basal valves shorter and wider; apodemes shorter, more stout and frequently connected by a transverse bar in distal part. These differences are admittedly not very great but they suggest a

lack of close affinities, since the phallic complex in the whole family is rather uniform.

Affinity of *Portheti* with the other North African and Asian genera of *Pamphagidae* is even more remote than with *Tropidauchen*.

A provisional conclusion which can be drawn with our present knowledge of the group, is that it has branched off from the family very early and that intermediate connecting forms have not survived.

Geographical distribution.

Being well defined morphologically the group *Portheti* is also well delimited geographically. The majority of the genera and species occur in southern and S.W. Africa, a few are found in Angola, Belgian Congo, in eastern Africa up to the Sudan, Eritrea and Somalilands. One species only reached as far as the southwestern corner of the Arabian peninsula.

It is probable that the group originated in the drier regions of southern Africa and then spread northwards over its present area (see map).

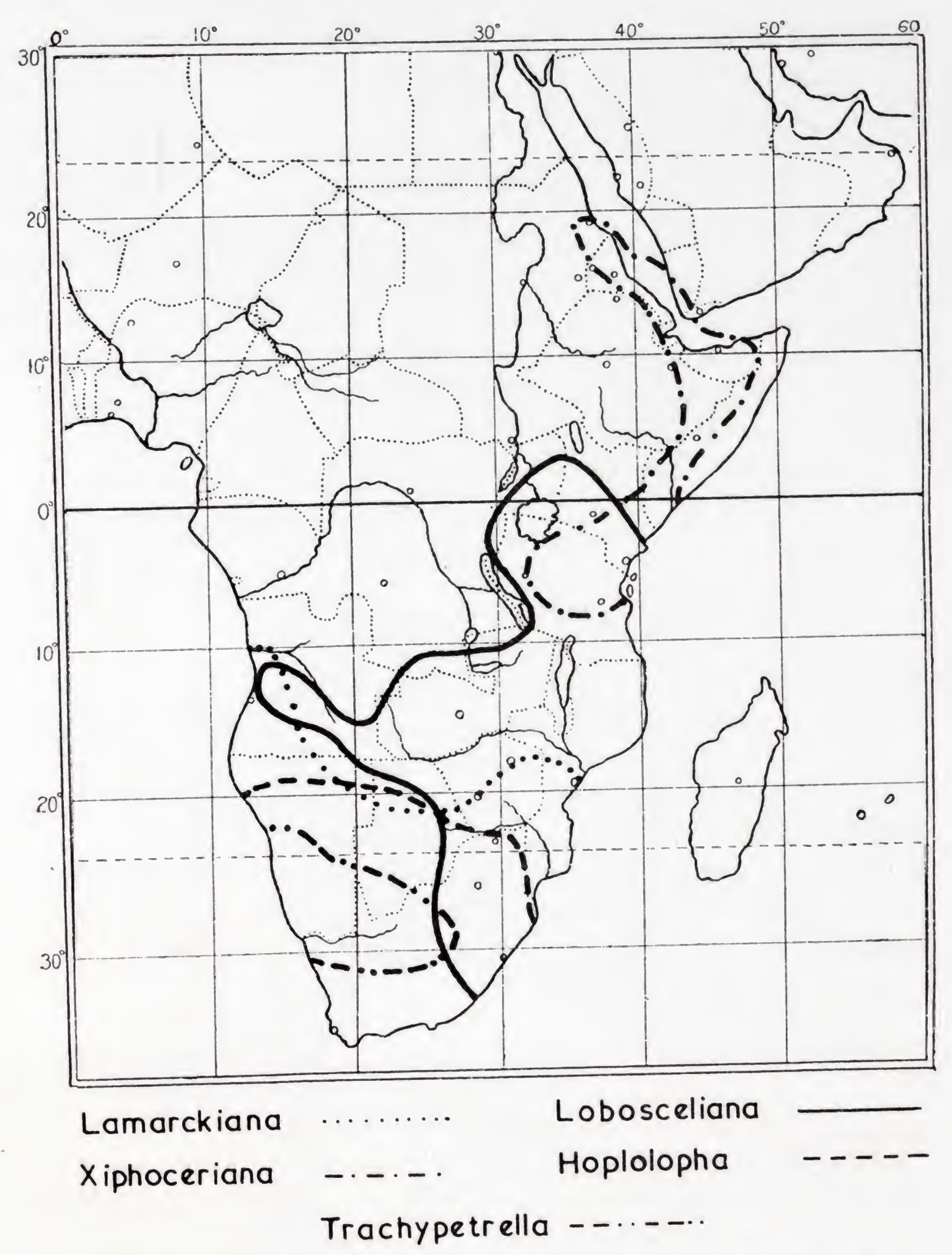
Group **Portheti.**

Diagnosis: Large. Male 30-63, female 39-86 mm. Body strongly sculptured, with spines, tubercles and wrinkles. In the majority of genera there is a great sexual dimorphism. Costal area of elytron, if present, is expanded and provided with dense, parallel, ridge-like stridulatory veinlets. Both, or only the upper, margins of hind femur strongly spined or serrated. External apical spine of hind tibia present. Krauss organ present. Tympanum present in both sexes, large, open, without subtympanal lobe. Apical valves of penis mostly serrated.

Review of the main characters. The main difference of the group from all other *Pamphagidae* is the peculiar stridulatory veinlets of the costal area of elytron. This feature and the stridulation have been described by Burtt (1946, *Proc. R. ent. Soc.* Lond., A, 21) for *Loboscelíana femoralis* Walker (incorrectly recorded as *Lamarckiana loboscelis* Schaum). This character is extremely stable and may be observed clearly even in micropterous species, such as *Transvaaliana*

distanti, or *Trachypetrella anderssonii.* In the latter genus, the only one in the whole group with winged female, the specialization is the same in both sexes.

Another important character is the protruding fastigium of vertex.



Map of distribution of the better known genera of the group *Portheti.*

This character is most strongly developed in *Lamarckiana, Loboscеliana, Xiphoceriana* and *Hoplolopha*, less so in *Porthetis, Puncticornia, Transvaaliana, Stolliana* and *Pagopedilum*, while the head approximates to globular in *Aphantotropis* and *Trachypetrella*. However, as already pointed out by Uvarov (1943, *Trans. R. ent. Soc. Lond.*, *93*, 1), the protruding fastigium of vertex ought to be regarded as a primary one in the group, since in a single known nymph of the last, or last but one, instar of *Aphantotropis*, the fastigium is more protruding and more acute than in the adult. In a small available series of nymphs of *Trachypetrella* it is also possible to observe gradual diminishing acuteness of fastigium of vertex from the second instar (the first is unknown) through the five or six following instars towards rather obtuse, almost globular, head of the adult.

Parallel to the form of fastigium of vertex are changes in the general shape of the body, which is strongly compressed in genera with far projecting fastigium, more cylindrical in those with shorter fastigium, and strongly depressed in *Aphantotropis* and *Trachypetrella*.

The Krauss organ is seen as a low convexity at the lower margin of the second abdominal tergite, with a series of rather poorly developed low ridges, running obliquely to the sagittal axis of the body; they are irregularly parallel and sometimes branched. As compared with the Krauss organ in the group *Thrinchini* (see Uvarov, 1943, t. c.), the organ is rather poorly developed, although quite distinct.

Another structure located closely to the Krauss organ was first mentioned and figured by Saussure (Addit. Prodr. Oedip. 1888) for *Trachypetrella* and has now been found in *Aphantotropis* and in macropterous males of *Stolliana*. This structure (Fig. 37) consists of an inflated and sclerotized elongate-triangular convexity of part of the lateral intersegmental membrane, situated just below the Krauss organ. In the middle of the convexity there are two or three very high, thin and sharp longitudinal, parallel ridges, which are highest in their middle. Several similar, but shorter, much less high and smaller ridges are located at the lower anterior part of the structure. The structure should be a peculiar abdominal stridulatory organ, the second part of which is represented in *Trachypetrella* by the rough lower internal margin of the hind femur and, probably, also by the rather large tubercles at the base of the femur. In *Aphantotropis* and *Stolliana* the tubercles are absent and the sound probably is produced by rubbing of the rough margin of the hind femur against the

ridges of the stridulatory organ. It is interesting to note that this stridulatory organ is found only in the closely related genera *Trachypetrella* and *Aphantotropis* and in *Stolliana* which is otherwise not related to them.

The phallic complex as a taxonomic character does not always follow the classification within the group according to the external characters. The apical valves of penis, which provide the best phallic character in the group, sometimes exhibit unexpected diversity. For example, in the genus *Lamarckiana* the apical valves of penis of *L. cucullata* are very different from those in the other species of the genus; according to this character, the genus might be divided in two, one with a single species, *L. cucullata* and another with the rest of the species. In species of *Lobosceliana* the apical valves of penis are rather uniform and characteristic for the genus. The genus *Xiphoceriana* represents again a rather divergent picture: *X. brunneriana* and *X. cristata* being similar to each other and different from *X. atrox* and *X. arabica,* which in this respect are also reasonably similar between themselves. Species of *Hoplolopha,* if classified by apical valves of penis, are divided in two groups, which are also shown by the external characters, one being macropterous (Figs. 18-22) and another brachypterous (Figs. 23, 24). The genera *Trachypetrella* and *Aphantotropis* possess very similar apical valves of penis, suggesting a close affinity, which is confirmed by the similar abdominal stridulatory organ; however, the apical valves of penis of *Stolliana,* which possess the same type of stridulatory organ, are quite different.

Epiphallus does not represent a good character for differentiating the genera, except *Hoplolopha* in which it is very characteristic (Figs. 18-24).

The structure of antenna represents a convenient and stable generic character, which is used here as a basic one for differentiating the genera, but it does not always run parallel with the characters of the phallic complex.

Key to genera.

1 (22). Body compressed. Pronotum strongly compressed, high, crest-like or approximating to tectiform. Head conical or subconical, mostly with protruding fastigium of vertex.

2 (9). Antenna strongly widened and clearly divided on basal and medial parts and a flagellum (Figs. 1-17).

3 (6). Flagellum of antenna with five segments (Figs. 1-6). Margins of hind femur not expanded (Figs. 1-6).

4 (5). Pronotum with moderately high crest, in male incised, in female crossed by basal transverse sulcus (Figs. 1-5). Male macropterous, elytron with obliquely truncate apical margin. ...... **Lamarckiana** Kirby.

5 (4). Pronotum with high crest, in both sexes not crossed and not incised by basal transverse sulcus (Fig. 6). Male elytron shortened, reaching the base of supra-anal plate, with rounded apez. .... **Vansoniacris** gen. n.

6 (3). Flagellum of antenna with four segments. Margins of hind femur expanded (Figs. 7-17).

7 (8). Medial part of antenna consists of two clearly divided segments. Upper margin of hind femur straight (Figs. 7-13). .... **Lobosceliana** gen. n.

8 (7). Medial part of antenna consists of a single segment (sometimes with a faint trace of division in two). Upper margin of hind femur slightly incurved in fron of the knee (Figs. 14-17). .... **Xiphoceriana** gen. n.

9 (2) Antenna not divided on basal and medial parts and flagellum, widened basally and regularly tapering towards apex, or narrow, ribbon-like and of the same width on whole length.

10 (19). Antenna widened basally and regularly tapering towards apex (Figs. 18-30).

11 (18). Prosternal tubercle with bilobate or trilobate apex and with teeth or tubercles on the posterior surface. Pronotum with high, strongly compressed crest (Figs. 18-29).

12 (13). Crest of pronotum with long spines and teeth, or strongly undulated. Fastigium of vertex and upper part of frons strongly projecting forwards (Figs. 18-24). .... **Hoplolopha** Stål.

13 (12). Crest of pronotum arcuate, simple or serrated only in metazona. Fastigium or vertex moderately, or not at all, projecting forwards (Figs. 25-29).

14 (15). Fastigium of vertex wider than long. Hind femur with very long strong spines and teeth on both margins. Pronotum with very arcuate crest (Fig. 25). Whole body strongly spined. ...... **Porthetis** Serville.

15 (14). Fastigium of vertex longer than wide. Hind femur with comparatively small teeth on upper margin and irregular serration on the lower. Pronotum with less high, less arcuate or angular crest (Figs. 26-29). Whole body granulose or finely granulose.

16 (17). Fastigium of vertex above flat or weakly concave, marginal carinulae not forming lateral projections; upper part of frons and fastigium of vertex projecting forwards. Crest of pronotum in metazona serrated. External side of hind femur with irregularly cellular sculpture (Figs. 26-27). .... **Cultrinotus** I. Bolivar.

17 (16). Fastigium of vertex above deeply concave, marginal carinulae form lateral projections in front of eyes; frons and fastigium of vertex not projecting forwards. Crest of pronotum in metazona not serrated. External side of hind femur with fish-bone sculpture (Figs. 28-29). .... **Transvaaliana** gen. n.

18 (11). Male prosternal tubercle conical, in female slightly spathulate, without teeth or tubercles. Pronotum with comparatively low crest (Fig. 30). .... **Puncticornia** gen. n.

19 (10). Antena narrow, ribbon-like, of the same width on the whole length (Figs. 31-35).

20 (21). Prosternal tubercle cuneiform with bilobate apex and numerous tubercles on posterior surface (Fig. 31). .... **Stolliana** I. Bolivar.

21 (20). Prosternal tubercle in front spathulate, its posterior surface with a strong, thick median carinula, in cross section T-shaped (Figs. 34-35). .... **Pagopedilum** Karsch.

22 (1). Body depressed. Pronotum depressed, almost flat, weakly tectiform, with linear median carina. Head approximating to globular, with fastigium of vertex not protruding, merging gradually with frons (Figs. 36-37).

23 (24). Apical segment of hind tarsus strongly inflated. Posterior margin of pronotum angulate. Male macropterous (female unknown) (Fig. 36). .... **Aphantotropis** Uvarov.

24 (23). Apical segment of hind tarsus not inflated. Posterior margin of pronotum straight, with irregular edges. Both sexes micropterous (Fig. 37). .... **Trachypetrella** Kirby.

Gen. **Lamarckiana** Kirby 1910.

1817. *Xiphicera* Lamarck, Hist. Nat. Anim. sans Vert., 1 ed., 4: 243.
1876. *Xiphocera* Stål, Öfvers. Vet. Akad. Forh., Stockh., 33 (3): 35.
1910. *Larmarckiana* (nom. nov.) Kirby, Syn. Cat. Orth. 3: 343.
1916. *Saussureana* (nom. preoc.) I. Bolivar, Genera Insect., 170: 13, 16.
1943. *Saussurea* (nom. nov.) Uvarov, Trans. R. ent. Soc. Lond., 93: 20 *(syn. n.)*.

Generic type: *Gryllus Locusta cucullatus* Stoll 1813.

Large, with rugulose and granulose integument; female larger and much more robust than male.

Antenna in basal part strongly widened and compresed, with two wide medial segments and five apical, forming flagellum. Fastigium of vertex above angulate or rounded, flat or slightly concave, with fine marginal carinulae, in profile strongly projecting forwards. Pronotum with high, or moderately high, crest, without fenestrae; in male excised, in female only crossed by basal transverse sulcus; in metazona slightly irregularly serrated. Prosternal tubercle broadly cuneiform, with bilobate apex and numerous teeth and tubercles on posterior surface. Margins of hind femur not widened: upper margin with strong teeth; lower roughly and irregularly serrated, sometimes with

few teeth. Male macropterous, elytron far exceeding end of abdomen, with strongly excurved anterior and obliquqely truncate apical margin; female apterous. Male subgenital plate obtusely conical; cercus compressed, conical, with apical part slightly upcurved; female subgenital plate with broadly obtusangulate apex; valves of ovipositor short, slightly curved. Supra-anal plate, in both sexes, with acutangulate apex and deep longitudinal sulcus in middle.

Apical valves of penis narrow, tapering towards apex, with lateral serration. Epiphallus wide, with posterior margin incurved or undulated.

The main characters of this genus are the five-segmented flagellum of antenna, not expanded margins of hind femur and the pronotal carina excised at the basal transverse sulcus in males and crossed by it in females.

When I. Bolivar erected the genus *Saussureana* with the type species *S. monticollis* I. Bol., the only essential difference between it and *Lamarckiana* was that metazona of pronotum is shorter than prozona, whereas in *Lamarckiana* metazona is longer than prozona. A study of all the species of both genera and of the majority of types, including the generic types, leads to the conclusion that this character cannot be regarded as a generic one, since the position of the basal transverse sulcus varies between species and it may even be in the middle of the pronotum. Moreover, this character would be valid for males only, since in females of all species metazona is much shorter than prozona. All other characters also indicate that *Saussurea* and *Lamarckiana* are congeneric.

Only five species can be retained in the genus in its present scope, and it is still possible that *L. punctuosa, L. sparrmani* and *L. nasuta* are only local races of the same species.

Key to species.

Males.

1 (2). Larger, up to 63 mm. Antenna in basal part very wide, about as wide as longest diameter of eye. Fastigium of vertex as broad as its length. Excision at basal sulcus of pronotum comparatively deep. Prozona shorter than netazona; median carina in metazona straight and comparatively low (Fig. 1). .... **cucullata** (Stoll).

2 (1). Smaller, up to 50 mm. Antenna in basal part narrower than longest

diameter of eye. Fastigium of vertex longer than its width. Excision at basal sulcus of pronotum shallower. Prozona as long as or longer than metazona (Figs. 2-5).

3 (6). Fastigium of vertex about twice as long as its width. Wing infumate, the remigium darker than vannus. Crest of pronotum lower (Figs. 2, 3).

4 (5). Elytron exceeds end of abdomen by about one and a half length of pronotum. Head relatively small. Crest of pronotum very low (Fig. 3). .... **sparrmani** (Stål).

5 (4). Elytron exceeds end of abdomen by about the length of pronotum. Head relatively larger. Crest of pronotum higher (Fig. 2). .... **punctosa** (Walk.).

6 (3). Fastigium of vertex about half again as long as its width. Posterior margin of elytron almost straight. Wing with infumate remigium and sulphureous vannus. Crest of pronotum higher (Figs. 4, 5).

7 (8). Lower margin of hind femur roughly serrated. Metazona of pronotum moderately serrated (Fig. 4). .... **nasuta** (Sauss.).

8 (7). Lower margin of hind femur with small, acute teeth. Metazona of pronotum strongly serrated (Fig. 5). .... **bolivariana** (Sauss.).

Females.

1 (2). Larger, up to 86 mm. Antenna in basal part very wide, wider than the longest diameter of eye. Fastigium of vertex wider than its length. .... **cucullata** (Stoll).

2 (1). Smaller, up to 65 mm. Antenna, in basal part, narrower than the longest diameter of eye. Fastigium of vertex longer than its width.

3 (6). Basal and medial parts of antenna wider. Pronotal crest lower (Figs. 2, 3).

4 (5). Crest of pronotum low (Fig. 3). Fastigium of vertex above narrower. .... **sparrmani** (Stål).

5 (4). Crest of pronotum higher and more arcuate (Fig. 2). Fastigium of vertex above wider. .... **punctosa** (Walk.).

6 (3). Basal and medial part of antenna narrower. Pronotal crest higher (Figs. 4, 5).

7 (8). Upper margin of hind femur with acute teeth, lower roughly serrated and with few small teeth in preapical part. Crest of pronotum lower (Fig. 4). .... **nasuta** (Sauss.).

8 (7). Both margins of hind femur with acute teeth. Crest of pronotum higher (Fig. 5). .... **bolivariana** (Sauss.).

Lamarckiana cucullata (Stoll 1813) (Fig. 1).

1813. *Gryllus locusta cucullatus* Stoll, Spectr. Saut.: 40, pl. 22 b., f. 86. Type ♂. «Pr. b. Sp.» (Cape of Good Hope). Leiden Mus.

1822. *Pamphagus canescens* Thunberg, Hem. max. Capens.: 5. Type ?

1876. *Xiphocera arenosa* Stål, Öfvers. Vet. Akad. Forh. Stockh., 33 (3): 37. Type ♀ «Damara, S.W. Africa». Stockholm Mus. *(syn. n.)*.
1932. *Lamarckiana arenosa* Sjöstedt, Soc. Ent. France. Livre Centen.: 542, pl. 30, f. 5. ♂ described as allotype. Klein Karas, S.W. Africa. Stockholm Mus.

In Stoll's work *G. cucullatus* is recorded from "Coromandel Coast", which is in India. The reasonably good figure however, allows a

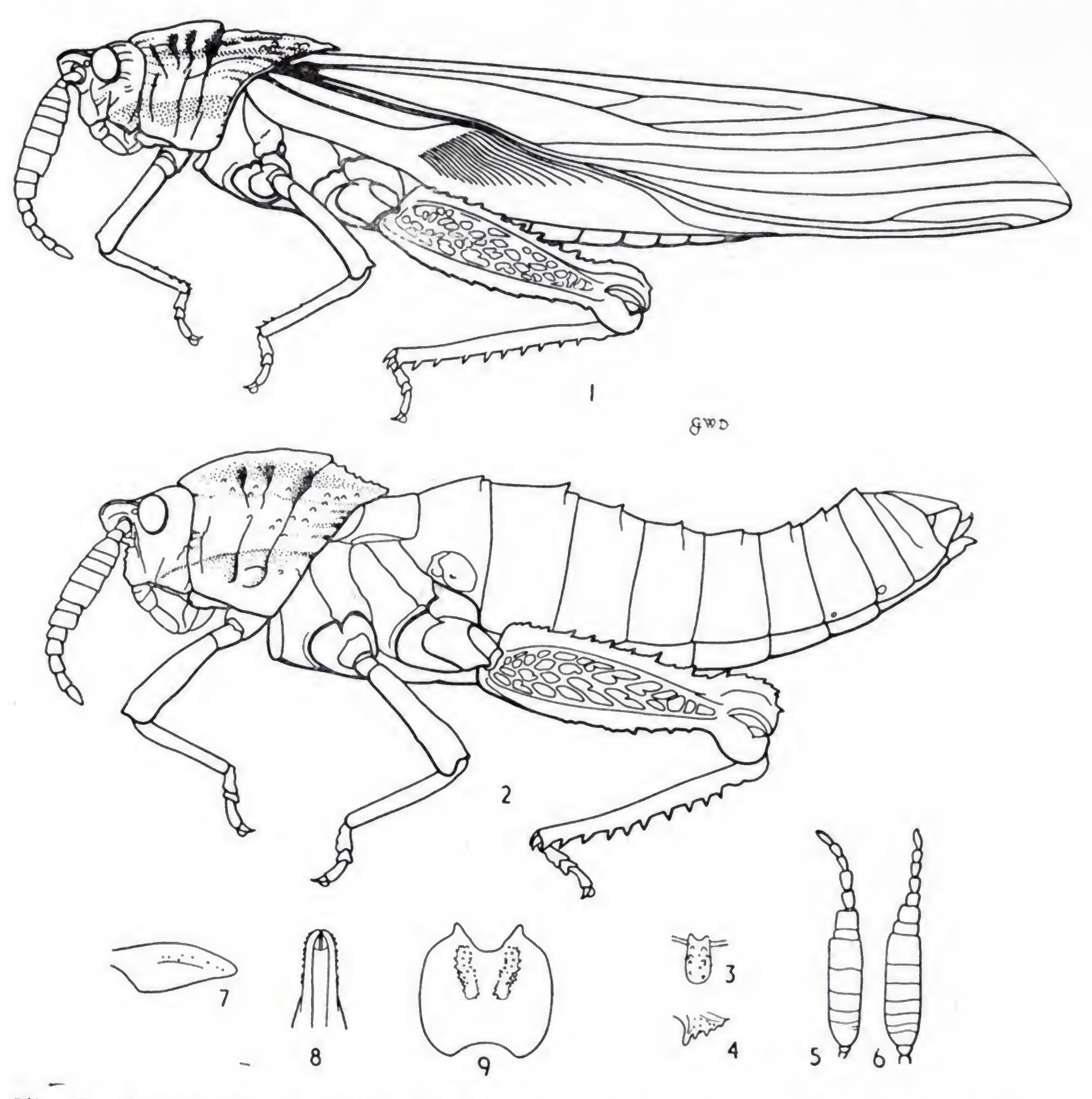


Fig. 1.—*Lamarckiana cucullata* (Stoll). 1, male. 2, female. 3, prosternal tubercle, posterior view. 4, ditto, lateral view. 5, left antenna, male. 6, ditto, female. 7, apical valve of penis, lateral view. 8, apical valves of penis, from above. 9, epiphallus.

definite recognition of the insect as *Lamarckiana* which occurs only in Southern Africa; it is obvious that locality was quoted erroneously. In the Leiden Museum there is a male specimen of *cucullata* which is attributed to Stoll's material, although there is no definite proof

of this; however, the specimen corresponds fairly well with Stoll's figure and belongs to the species, which was and still is regarded by acridologists as *cucullata* Stoll. The old locality label on it reads "Pr. b. Sp.", *i.e.* Cape of Good Hope. I designate this specimen as the type of *Gryllus locusta cucullatus* Stoll.

A study of the female type of *X. arenosa* Stål and the male specimen, described by Sjöstedt as allotype of *arenosa,* together with a series of available material of this species, showed that *L. cucullata* and *L. arenosa* are different sexes of the same species.

The type of *P. canescens* Thunb. is lost, but the species was already synonymized with *L. cucullata* (Stoll) by Kirby in 1902.

♂. Very large and strongly granulose. Antenna in basal and medial parts strongly widened; first medial segment short, transverse, second almost square; segments of flagellum narrow, beads-like. Fastigium of vertex above wider at the base than its length, with angulate apex, slightly concave, with median carinula which begins at the end of fastigial furrow and continues to the occiput; in profile, fastigium is angulate. Pronotum with comparatively low crest, strongly excised at basal sulcus and with metazona longer than prozona. Elytron far exceeds end of abdomen. Hind femur comparatively slender, its upper margin with small acute teeth, lower margin irregularly undulated.

Apical valves of penis elongated, with incurved apices and strongly serrated external edges. Epiphallus as wide as long, with posterior margin incurved.

General colouration brownish-grey with a whitish stripe below eye and on pronotum. First and second basal antennal segments yellowish. Wing infumate. Internal side of hind tibia purplish.

♀. Very large, strongly granulose and rugulose. Antenna strongly widened in basal and medial part; first medial segment short, transverse, second almost square; segments of flagellum narrow, beads-like. Fastigium of vertex above wider than its length, with broadly parabolic apex, slightly concave; median carinula indistinct; occipital carinula weak; in profile fastigium with rounded apex. Pronotum with low crest, crossed, but not excised, at basal sulcus; metazona slightly roughly serrated, much shorter than prozona. Hind femur comparatively slender, its upper margin with small acute teeth, lower margin undulated and with few small obtuse teeth.

General colouration brownish-grey with a whitish striple below

eye and on pronotum. First and second basal antennal segments yellowish. Internal side of hind tibia purplish.

Length ob body ♂ 60-63, ♀ 77-86; pronotum ♂ 18-19, ♀ 16.5-18; elytron ♂ 69-71; hind femur ♂ 25-25.6, ♀ 26-29 mm.

Specimens examined:

Cape Prov.: "Pr. b. Sp" 1 ♂ (type of *cucullata).* Klipplaat, 2 ♂. Somerset East, 1 ♀. Mossel Bay, VIII.1944, 2 ♀ (R. H. N. Smithers).

S. W. Africa: Damara, 1 ♀ (type of *arenosa),* Klein Karas, 1 ♂ (Sjösted's allotype of *arenosa).* Windhoek, 1 ♀.

Angola: Congulu, 1 ♀. April 1934 (K. Jordan).

Lamarckiana punctosa (Walker 1870) (Fig. 2).

1870. *Akicera punctosa* Walker, Cat. Derm. Salt. Brit. Mus., 3: 532. Type ♀. East Africa. British Mus. (Nat. Hist.).

♂. Moderately large and strongly rugulose and granulose. Antenna strongly widened in basal and medial part; both medial segments almost square; flagellum comparatively narrow. Fastigium of vertex above with angulate apex, twice as long as its width, slightly concave, with weak median and sharp lateral carinulae; in profile, apex of fastigium rounded. Pronotum with low crest, moderately deeply excised at basal sulcus; metazona shorter than prozona. Elytron exceeds end of abdomen; its posterior margin concave in apical part. Hind femur comparatively short and slender, upper margin with large acute teeth, lower margin with sharply serrated edge. Apical valves of penis not narrowing towards apex, with strongly serrated external edges. Epiphallus transverse, with posterior margin slightly undulated, almost straight.

General colouration brownish-grey with a whitish stripe on head below eye and on side of pronotum. First and second basal antennal segments of flagellum ochraceous. Wing strongly infumate. Internal side of hind tibia grey, at apex purplish, or slightly purplish.

♀ (Type). Moderately large, rugulose and granulose. Antenna strongly widened in basal and medial parts; first medial segment

transverse, second almost square; flagellum moderately narrow. Fastigium of vertex above longer than its width, with parabolic apex, slightly concave, marginal carinulae weak, median one indistinct; in profile, apex of fastigium angulate. Pronotum with low, slightly arcuate crest, metazona much shorter than prozona, roughly serrated.

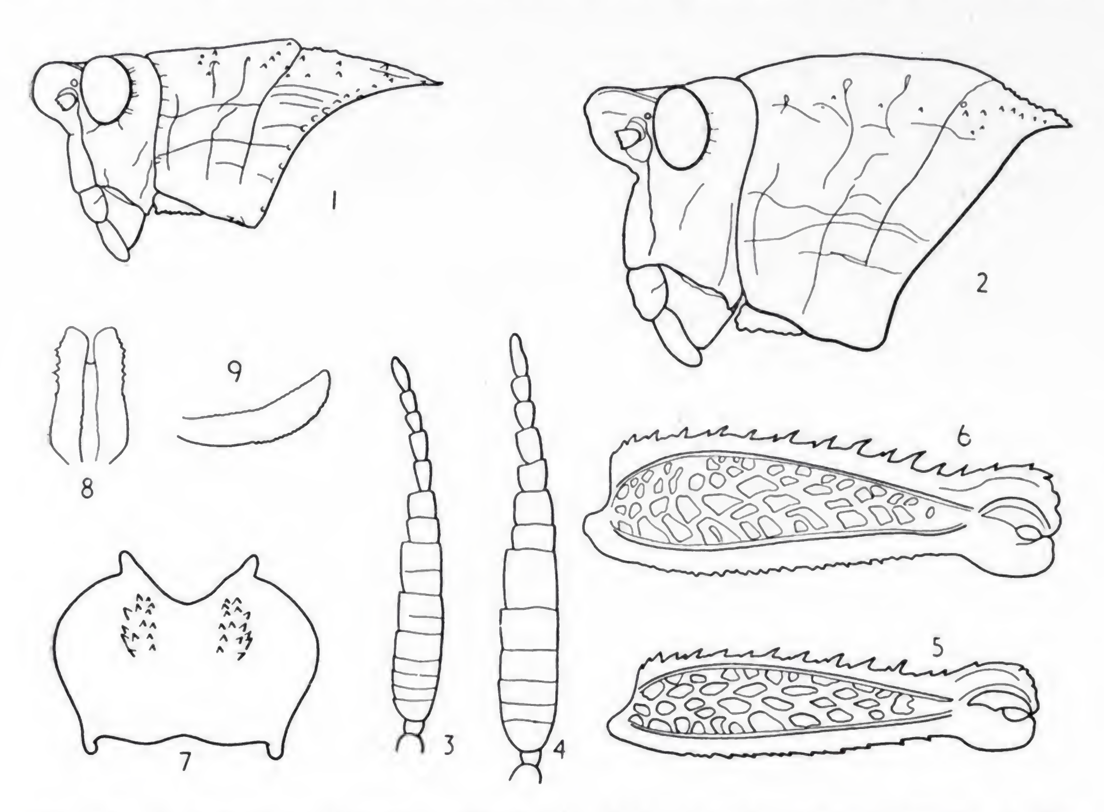


Fig. 2.—*Lamarckiana punctosa* (Walker). 1, head and pronotum, male. 2, ditto, female. 3, left antenna, male. 4, ditto, female. 5, hind femur, male. 6, ditto, female. 7, epiphallus. 8, apical valves at penis, from above. 9, ditto, lateral view.

All abdominal tergites with short acute apical teeth. Upper margin of hind femur with large acute teeth, lower margin strongly roughly serrated.

General colouration (type discoloured by previous preservation in spirit) brown or grey, with whitish stripe on head below eye and on side of pronotum. First and second basal antennal segments ochraceous-orange (sometimes red); flagellum indistinctly ochraceous. Internal side of hind femur grey or purplish.

Length of body ♂ 43-49, ♀ 57-75 (type 66); pronotum ♂ 10.15-13.7. ♀ 14.3-18 (type 15.5); elytron ♂ 30.3-48.5; hind femur ♂ 17.3-19.5, ♀ 20.5-24 (type 22.5) mm.

This species varies in size (see measurements), in length of pronotum and height of its crest in both sexes, but with wider range in males; length of elytron varies considerably in the same population (see measurements). Variation in colouration of basal segments of antenna was observed in females only (see description of female); hind tibia vary from grey to purplish.

Specimens examined:

S. Rhodesia: Odzi Dist. 7 ♂, 6 ♀. Zimbabwe, 1 ♀. Selukwe, 1 ♀. Sebungwe Dist., Malundu, 1 ♀ (J. A. Whellan). Turk Mine, V. 1957, 2 ♂.

Lamarckiana sparrmani (Stål 1876) (Fig. 3).

1876. *Xiphocera sparrmani* Stål, Öfvers. Vet. Akad. Forth., Stockh., 33 (3): 37. Type ♂. Damara, S.W. Africa. Stockholm Mus.

The species was described from male and female; here the male is designated as the type.

♂ (Type). Moderately large and strongly rugulose and granulose. Antenna strongly widened in basal and medial parts; first medial segment transverse, second square; flagellum comparatively narrow. Fastigium of vertex above strongly elongated, with angulate apex, slightly concave, with weak lateral and indistinct median carinulae; in profile apex of fastigium angulate. Pronotum with very low crest; metazona slightly shorter than prozona. Elytron far exceeds end of abdomen. Hind femur short, its upper margin with large acute teeth, lower margin roughly serrated. Apical valves of penis narrowing towards apex, with serrated edges. Epiphallus transverse, its posterior margin excised.

General colouration brownish-grey, with whitish stripe on the head below eye and on side of pronotum. First and second antennal segments and two apical segments of flagellum dirty ochraceous. Wing infumate. Internal side of hind tibia purplish.

♀. Large, rugulose and granulose. Antenna strongly widened in basal and medial parts; first medial segment slightly wider than its lenght, second almost square; flagellum narrow. Fastigium of

*

vertex above elongated, with angulate apex, slightly concave, with weak lateral carinulae; in profile fastigium slightly angulate. Pronotum with low, almost tectiform, only slightly convex, crest; metazona much shorter than prozona, slightly serrated. First and second abdominal tergite with short acute apical teeth. Upper margin of hind femur with large acute teeth, lower margin roughly serrated.

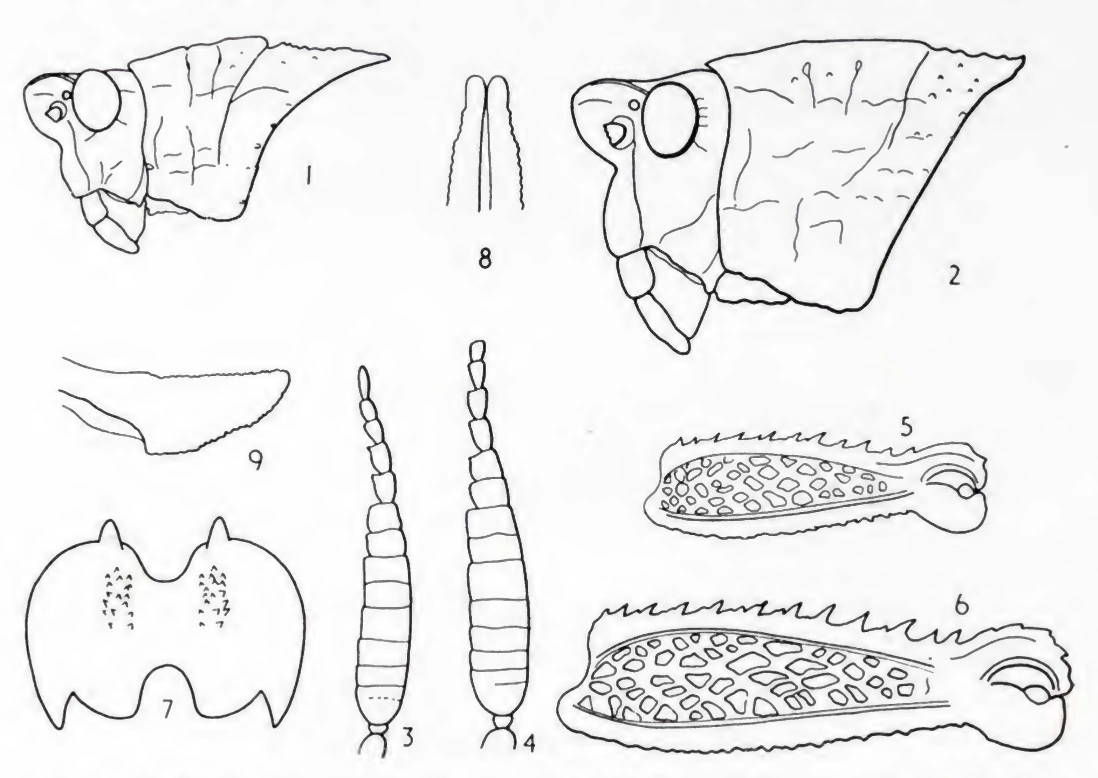


Fig. 3.—*Lamarckiana sparrmanï* (St.). Male type, female paratype. 1, head and pronotum, male. 2, ditto, female. 3, left antenna, male. 4, ditto, female. 5, hind femur, male. 6, ditto, female. 7, epiphallus. 8, apical valves of penis, from above. 9, ditto lateral view.

General colouration brownish-grey, with an indefinite greyish stripe on head below eye and on side of pronotum. First and second basal antennal segments dirty ochraceous. Internal side of hind tibia purplish.

Length of body ♂ 45-48 (type 45), ♀ 63.5-72; pronotum ♂ 12-14 (type 12.6), ♀ 14-15; elytron ♂ 45-49.5 (type 47); hind femur ♂ 16.5-20 (type 16.5), ♀ 20.4-23.2 mm.

This species is very near to *L. punctosa* and possibly represents only a different local race, but only few specimens are known which prevents a definite conclusion. A comparison of the available small series shows the following differences: in *L. sparrmani* the head

in relation to pronotum is smaller; crest of pronotum very low; elytron more elongated; hind femur relatively shorter than in *L. punctosa;* for phallic organ compare Figs. 2, 3.

Specimens examined:

S.W. Africa: "Damara", 1 ♂ (type), 1 ♀ (paratype). Okanjanga Farm, 1 ♂.
Bechuanaland: Ghanzi, 2 ♂, 3 ♀.

Lamarckiana nasuta (Saussure 1887) (Fig. 4).

1887. *Xiphocera nasuta* Saussure, Spicil. Ent. Genav., 31: 45, pl. 2, f. 6, 6a, 6b. Type ♀. Zululand. Vienna Mus.
1893. *Xiphocera ensicornis* Saussure, Ent. mon. Mag., 29: 152. Type ♀. Zoutpansberg, Transvaal. British Mus. (Nat. Hist.). *(Syn. n.)*
1902. *Xiphocera eblis* Kirby, Trans. ent. Soc. Lond.: 93. Type ♀. Pretoria, Transvaal. British Mus. (Nat. Hist.). *(Syn. n.)*

The three types of the above mentioned synonyms were directly compared and found conspecific.

♂. Of medium size, rugulose and granulose. Antenna moderately strongly widened in basal and medial parts, with both medial segments transverse; flagellum with comparatively wide first and second basal segments. Fastigium of vertex above about half again as long as its width, with parabolic apex, flat, with weak lateral and median carinulae; in profile apex of fastigium rounded. Pronotum with moderately high arcuate crest, with deep excision at basal sulcus; metazona shorter than prozona, roughly serrated. Elytron exceeds end of abdomen by less than length of pronotum, its anterior margin strongly excurved, posterior almost straight, apical margin almost rounded. Upper margin of hind femur with large acute teeth, lower margin roughly serrated. Apical valves of penis strongly narrowing towards apex, with strong lateral serration. Epiphallus transverse with posterior margin undulated.

General colouration brown. First and second basal antennal segments and two apical segments of flagellum ochraceous. Remigium of wing infumate, vannus sulphureous. Internal side of hind tibia purplish.

♀. Of medium size, rugulose and granulose. Antenna strongly widened in basal and medial parts; both medial segments transverse; first and second segments of flagellum comparatively wide. Fastigium of vertex above about half again as long as its width with apex slightly angulate, almost flat, with weak lateral and median carinulae; in profile, apex of fastigium rounded. Crest of pronotum moderately high,

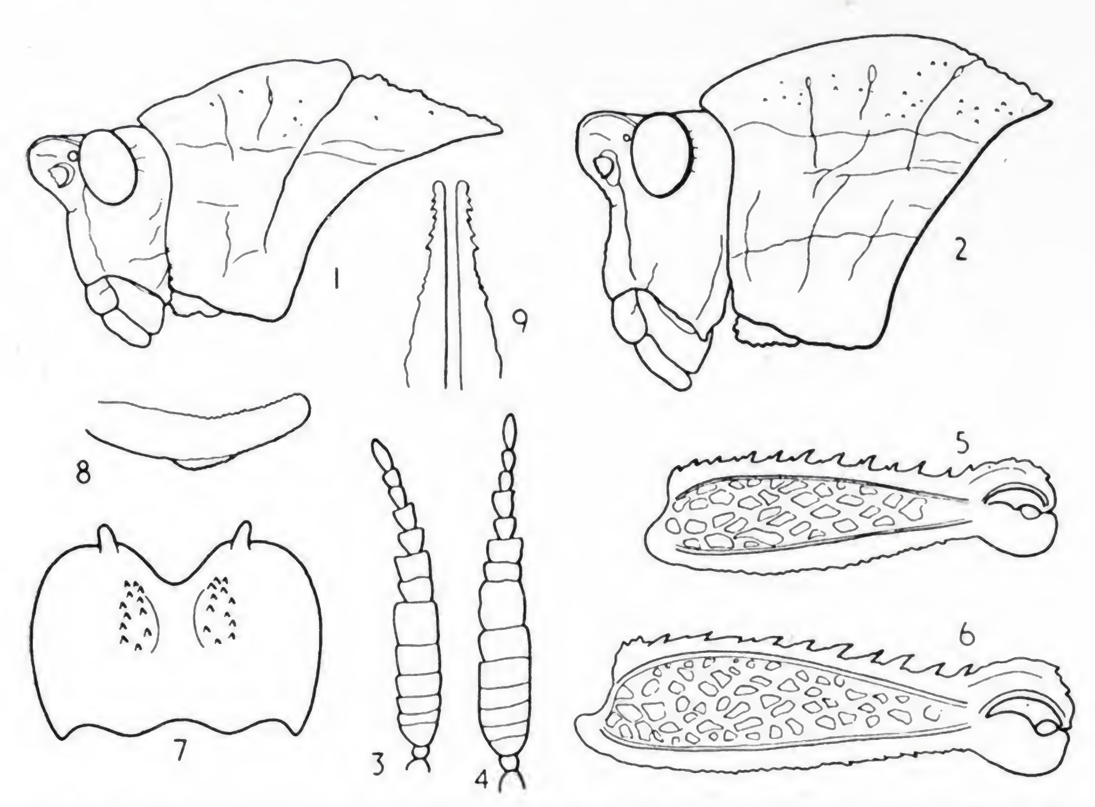


Fig. 4.—*Lamarckiana nasuta* (Sauss.). Female type, male specimen from S. Rhodesia. 1, head and pronotum, male. 2, ditto, female. 3, left antenna, male. 4, ditto, female. 5, hind femur, male. 6, ditto, female. 7, epiphallus. 8, apical valves of penis, lateral view. 9, ditto, from above.

in profile excurved; metazona much shorter than prozona, and roughly serrated. First and second abdominal tergites with small acute apical teeth. Upper margin of hind femur with large acute teeth, lower margin roughly serrated.

General colouration brownish-grey. First and second basal antennal and two apical flagellum segments dirty ochraceous. Internal side of hind tibia purplish.

Length of body ♂ 40.4-43.3, ♀ 55-65; pronotum ♂ 13-14, ♀ 14.2-16; elytron ♂ 31.5-38.6; hind femur ♂ 15-16, ♀ 19-21 mm.

This species is very near to *L. punctosa* Walk. and *L. sparrma-*

ni St., differing by higher crest of pronotum, narrower antenna, straight posterior margin of male elytron and colouration of wing. It is very difficult to distinguish females of the three species.

Specimens examined:

Zululand: 1 ♀ (type of *X. nasuta*). Eshowe, 1 ♂ (Dr. Gerstner).

Transvaal: Zoutpansberg 2 ♂, 2 ♀ (including type of *X. ensicornis*).

Pretoria, 1 ♀ (type of *X. eblis*).

Mozambique: Delagoa Bay, 1 ♀.

S. Rhodesia: Odzi Dist., 1 ♀. Chipinga Dist., Sabi Exper. Station, 1 ♀ (J. A. Whellan).

Lamarckiana bolivariana (Saussure 1887) (Fig. 5).

1887. *Xiphocera bolivariana* Saussure, Spic. Ent. Genav.: 33, 57. Type ♂. Lorenzo-Marquez. Geneva Mus.

1902. *Xiphocera rendalli* Kirby, Trans. ent. Soc. Lond.: 98. Type ♀. Barberton, Transvaal. British Mus. (Nat. Hist.). *(Syn. n.)*

1915. *Saussureana monticollis* I. Bolivar, Bol. Soc. esp. Hist. Nat.: 90. Type ♀. Zoutpansberg, Transvaal. Madrid Mus. *(Syn. n.)*

Saussureana monticollis I. Bol. was described from a male and a female specimen from the same locality. Here the male is designated as the type.

A comparison of the male types of *X. bolivariana* and *S. monticollis* and the female type of *X. rendalli* with the paratype female of *S. monticollis* proved that they are all conspecific.

♂. Medium size, rugulose and granulose. Antenna moderately widened in basal and medial parts; first medial segment transverse, second almost square. Fastigium of vertex above about half again as long as its width, with apex almost parabolic; slightly concave; lateral carinulae moderately strong; short occipital carinula present; in profile, fastigium angulate. Crest of pronotum comparatively high, deeply excised at basal transverse sulcus; metazona shorter than prozona, in profile strongly serrated. Elytron exceeds end of abdomen by less than length of pronotum, its posterior margin almost straight, only slightly incurved in apical part. Hand femur short, its upper

margin with short acute teeth, lower margin with small obtuse teeth. Apical valves of penis narrow, slightly tapering towards apex, with lateral margins finely serrated. Epiphallus transverse, its posterior margin undulated.

General colouration reddish-brown. First and second basal antennal segments ochraceous. Remigium of wing infumate, vannus

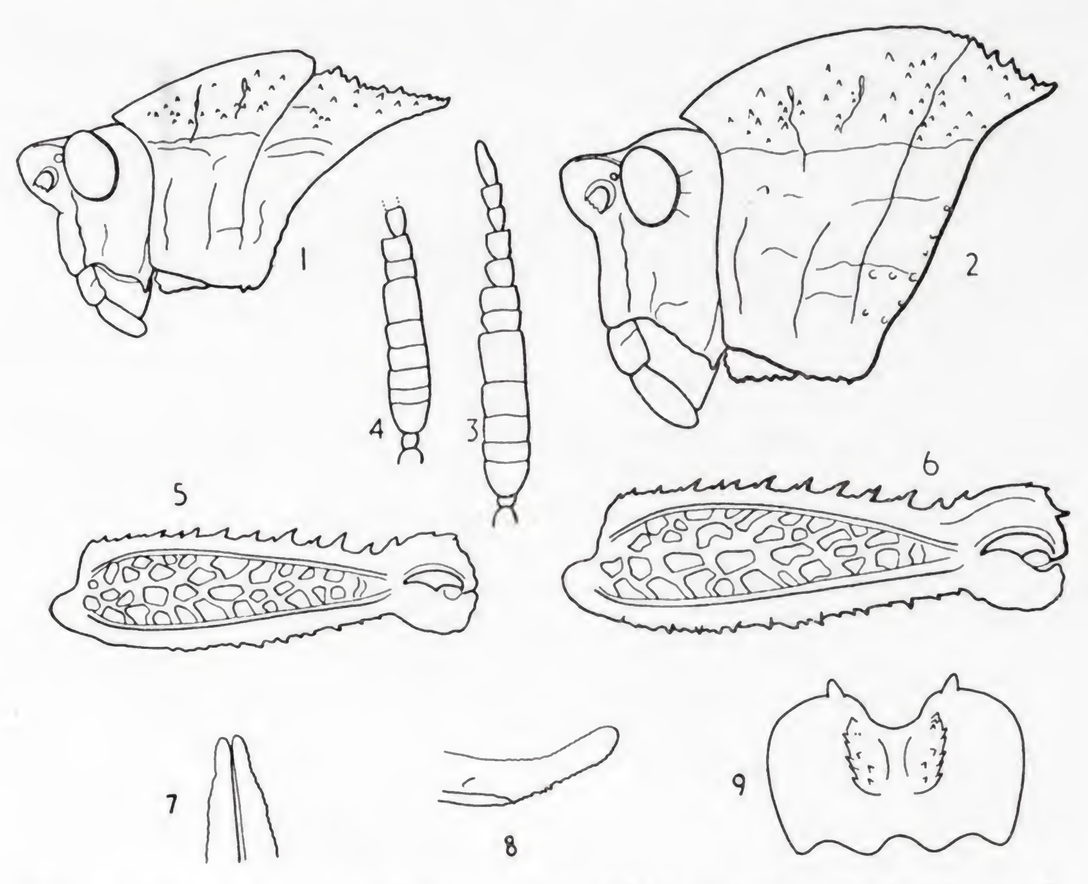


Fig. 5.—*Lamarckiana bolivariana* (Sauss.). Male type of *S. monticollis*, female type of *X. rendalli*. 1, head and pronotum, male. 2, ditto, female. 3, left antenna, female. 4, ditto, male. 5, hind femur, male. 6, ditto, female. 7, apical valves of penis, from above. 8, ditto, lateral view. 9, epiphallus.

sulphureous, external margin slightly infumate. Internal side of hind tibia purplish.

♀. Of medium size, rugulose and granulose. Antenna moderately widened in basal and medial parts; both medial segments square; first and second basal segments of flagellum comparatively wide. Fastigium of vertex above about half again as long as wide, with angulate apex, slightly concave, marginal carinulae moderate, median carinula indistinct; in profile fastigium with rounded apex. Crest of pronotum comparatively high, arcuate, metazona much shorter than pro-

zona, in profile roughly serrated. All abdominal tergites each with small subacute apical tooth. Upper margin of hind femur with large, lower with small acute teeth.

General colouration brown. First and second basal antennal segments ochraceous. Internal side of hind tibia purplish.

Length of body ♂ 44, ♀ 46-54; pronotum ♂ 13.3, ♀ 14-15.5; elytron ♂ 38; hind femur ♂ 15.6, ♀ 19-20 mm.

This species is very near to *L. nasuta* Sauss., but differs by more strongly serrated metazona of pronotum and toothed lower margin of hind femur.

Specimens examined:

Transvaal: Barberton 1 ♂ (type of *X. rendalli*). Zoutpansberg, 1 ♂, 1 ♀ (type and paratype of *S. monticollis*). Tsaneen, 1 ♀. Kruger Nat. Park, Skukuza, 1 ♀. Louis Trichardt 2 ♀.

Zululand: Mtubatuba, 2 ♀.

Mozambique: Lorenço Marques, 1 ♂ (type of *X. bolivariana*).

Vansoniacris gen. n.

Generic type: *Vansoniacris rubricornis* sp. n.

Small, rugulose and granulose, female much larger and more robust than male. Antenna in basal part widened and strongly compressed, with two medial and five segments of flagellum. Fastigium of vertex and upper part of frons strongly projecting forwards. Pronotum with high crest, without fenestrae, not crossed by transverse sulci; metazona slightly roughly serrated. Prosternal tubercle with bilobate apex, and numerous teeth and tubercles on posterior surface. Margins of hind femur not widened, upper margin with strong long teeth, lower one irregularly serrated. Male with shortened and apically rounded elytron, wing much shorter than elytron. Female apterous. Male subgenil plate conical; cercus conical, compressed, with slightly upcurved apical part. Female subgenital plate with broadly rounded apex. Supra-anal plate in both sexes simple, with angulate apex and longitudinal sulcus in the middle. Valves of ovipositor short, robust, little curved.

Apical valves of penis narrowing towards apex with small teeth on all sides. Epiphallus transverse.

By the five-segmented flagellum the new genus belongs to the same group as *Lamarckiana,* but differs strongly from the latter by the shape of pronotum, which is rather high-crested and not crossed by the basal transverse sulcus; by shortened male elytron and wing and by the shape of apical valves of penis.

This new genus is named in honour of Dr. G. Van Son, well-known explorer of South African fauna, to whom I am obliged for many interesting specimens.

Vansoniacris rubricornis sp. n. (Fig. 6).

♂ (Type). Antenna moderately widened in basal and medial parts, first medial segment transverse, second almost square, flagellum only slightly narrower than medial part. Fastigium of vertex above longer than its width, slightly concave, with parabolic apex and weak marginal and median carinulae, in profile fastigium slightly ascending, with rounded apex. Pronotum relatively long, with high, widely arcuate crest, metazona slightly serrated. Elytron with strongly convex anterior and slightly convex posterior margins; wing about two thirds length of elytron.

General colouration dark reddish-brown; sides of pronotum on eye level with light brownish stripe. First and second antennal segments cinnabar-red. Internal and upper side of hind tibia dark-bluish. Wing strongly infumate.

♀ (Paratype). Much larger than male, rugulose and granulose. Antenna moderately widened in basal and medial parts; both medial segments transverse, but second longer than first; flagellum considerably narrower than medial segments. Fastigium of vertex longer than its width, slightly concave, with parabolic apex, and weak marginal and median carinulae. Pronotum with high broadly arcuate crest; metazona weakly serrated. Abdominal segments each with small, subacute apical tooth.

General colouration greyish, on side of pronotum with a wide whitish stripe and above it with two black spots (which are sometimes absent). First and second basal antennal segments cinnabar-red. Internal side of hind tibia bluish-grey.

Length of body ♂ 34.5-37.5; ♀ 54-59; pronotum ♂ 15-16, ♀ 17-18.5; ♂ elytron 19.5-21; femur ♂ 14-14.5, ♀ 17.5-18 mm.

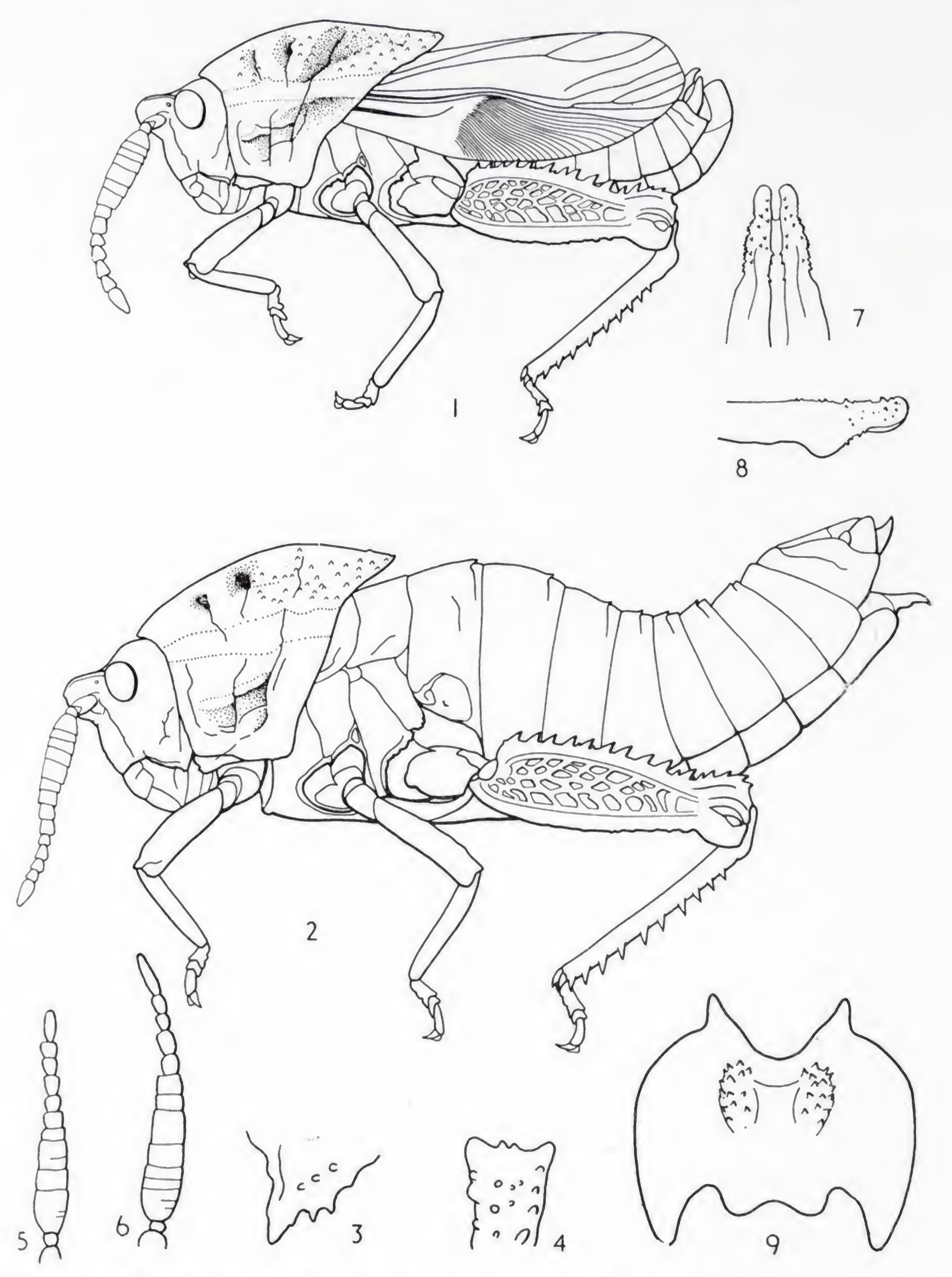


Fig. 6.—*Vansoniacris rubricornis* gen. sp. n. 1, male type. 2, female allotype. 3, prosternal tubercle, male, lateral view, from left side. 4, ditto, posterior view. 5, left antenna, male. 6, ditto, female. 7, apical valves of penis from above. 8, ditto, lateral view. 9, epiphallus.

Specimens examined:

S. Rhodesia: Vumba, November 1935, December 1937, 2 ♂ (including type), 2 ♀ (G. Van Son). Vumba Mts., December 1945 1 ♂, 1 ♀ (N. C. E. Miller).

Transvaal: Mariepskop, Jan. 1951, 1 ♂ (J. C. Faure).

Loboscelіana gen. n.

Generic type: *Pamphagus loboscelis* Schaum 1853.

Large, with strongly granulose and rugulose integument; female larger and more robust than male.

Antenna in basal part widened and strongly compressed, with two widened medial segments and four compressed apical ones forming flagellum. Fastigium of vertex and upper part of frons strongly projecting forwards, above angulate, flat, with low marginal carinulae; frontal ridge above ocellus with shallow sulcus. Pronotum with very high, strongly lamellate crest, not crossed by basal sulcus, with three fenestrae; metazona sometimes roughly serrated or undulated. Prosternal tubercle broadly cuneiform, with bilobate apex and numerous small teeth and tubercles on posterior surface. Both margins of hind femur strongly lamellate and widened, particularly in females, upper margin straight with teeth or serrated, lower margin roughly serrated, undulated or simply excurved. Male macropterous, elytron far exceeds end of abdomen, with strongly excurved anterior and obliquely truncate apical margin; female apterous. Male subgenital plate conical; cercus conical, compressed, with apical part slightly upcurved. Female subgenital plate with broadly rounded apex. Valves of ovipositor short, little curved. Supra-anal plate, in both sexes, simple, with angulate apex and longitudinal sulcus in the middle.

Apical valves of penis with expanded and serrated lateral lobes. Epiphallus with straight or excurved posterior margin.

The main differences of this genus from others of the group, are the antenna with four-segmented flagellum and two medial segments; strongly expanded margins of hind femur with straight upper margin and strongly serrated lateral expansions of the apical valves of penis.

Only *L. femoralis* was studied on series collected in one locality, which was sufficient to show that the species varies in the form of

pronotal crest, which might be more or less angulate in profile and more or less high; hind femur varies in relative length and in form of lower margin; antenna varies in relative length and in relative length of segments; the general sculpture of the body rather widely, some specimens being comparatively smooth and others strongly granulose and rugulose. This wide range of individual variability suggests that possibly some species of the genus are only local populations of the same species, differences between them being rather small. Unfortunately the majority of species are know from a few specimens or even a single type.

The sexual dimorphism in the genus is so great that it is possible that in some cases the second described sex may belong to another species.

Key to species.

Males.

1 (2). Crest of pronotum very high, leaf-like, thin, with metazona steeply sloping backwards (Fig. 7). .... **spectrum** (Sauss.).

2 (1). Crest of pronotum moderately high and thick, with metazona gradually sloping backwards (Figs. 8-13).

3 (8). Crest of pronotum angulate (Figs. 9, 11, 12).

4 (5). Crest of pronotum sharply angulate. Basal and medial parts of antenna comparatively wide (Fig. 9). .... **femoralis** (Walk.).

5 (4). Crest of pronotum, in profile, less sharply angulate. Basal and medial parts of antenna comparatively narrow (Figs. 11, 12).

6 (7). Fastigium of vertex, in profile, rounded. Ratio of length of antenna to maximal diameter of eye 4.3. Hind femur slightly shorter than pronotum (Fig. 11). .... **gilgilensis** (I. Bol.).

7 (6). Fastigium of vertex, in profile, angulate. Ratio of length of antenna to maximal diameter of eye 3.8. Hind femur as long as pronotum (Fig. 12). .... **brevicornis** (I. Bol.).

8 (3). Crest of pronotum, in profile, arcuate (Figs. 8, 10, 13).

9 (12). Fastigium of vertex in profile obtusangulate, almost rounded. Basal part of antenna comparatively narrow (Figs. 8, 10).

10 (11). Hind femur shorter than pronotum, lower margin strongly expanded and excurved, upper margin more finely serrated. Medial segments of antenna wider than flagellum (Fig. 8). .... **loboscelis** (Schaum).

11 (10). Hind femur as long as or longer than pronotum, lower margin weakly expanded and only slightly excurved, upper margin more strongly serrated. Medial segments of antenna almost the same width as flagellum (Fig. 10). .... **cinerascens** (St.).

12 (9). Fastigium of vertex in profile acutangulate. Basal part of antenna comparatively wide (Fig. 13) .... **haploscelis** (Schaum).

Females.

1 (14). Fastigium of vertex, in profile, obtusangulate or rounded. Basal and medial parts of antenna comparatively narrow (Figs. 7-13).
2 (7). Lower margin of hind femur very strongly expanded, strongly excurved and serrated in subapical part only (Figs. 7-9).
3 (4). Antenna short, ratio of its length to largest diameter of eye about 3.7; both medial segments transverse (Fig. 7). .... **spectrum** (Sauss.).
4 (3). Antenna longer, ratio of its length to largest diameter of eye 4.4-4.8; first medial segment transverse, second square or elongated (Figs. 8, 9).
5 (6). Antenna narrower, segments of flagellum more elongated and without lateral apical projections (Fig. 8). .... **loboscelis** (Schaum).
6 (5). Antenna wider, segments of flagellum shorter with lateral apical projections on external side (Fig. 9). .... **femoralis** (Walk.).
7 (2). Lower margin of hind femur comparatively little expanded, less excurved; serrated on whole length (Figs. 10-13).
8 (9). Medial segments of antenna almost the same width as segments of flagellum. Lower margin of hind femur comparatively narrow (Fig. 10). .... **cinerascens** (Stål).
9 (8). Medial segments of antenna much wider than segments of flagellum. Lower margin of hind femur wider (Figs. 11-13).
10 (11). Whole lower margin of hind femur with strong acute teeth. Second medial and second and third segments of flagellum of antenna on external side with strong apical projections (Fig. 13). Whole body extremely sculptured. .... **rugosipes** (Kirby).
11 (10). Lower margin of hind femur serrated, with small obtuse teeth, which sometimes are acute in subapical part. Segments of antenna without, or with slight, apical projections. Body less sculptured (Figs. 11, 12).
12 (13). Flagellum of antenna long with elongated segments, without apical proyections (Fig. 11). .... **gilgilensis** (I. Bol.).
13 (12). Flagellum of antenna shorter, the first and segments being almost as wide as long; the third segment with an external apical projection (Fig. 12). .... **brevicornis** (I. Bol.).
14 (1). Fastigium of vertex, in profile, acutangulate. Basal and medial parts of antenna comparatively wide (Fig. 13). .... **haploscelis** (Schaum).

Lobosceliana spectrum (Saussure 1887) (Fig. 7).

1887. *Xiphocera spectrum* Saussure, Spic. Ent. Genav.: 31, 41. Type ♀. Quango, Angola. Madrid Mus.

1889. *Xiphocera saussurei* I. Bolivar, J. Sci. Acad. Lisboa (2), 1: 153. Type ♂. Caconda, Angola, Madrid Mus. *(Syn. n.)*

Female type of *X. spectrum* Sauss. and female allotype of *X. saussurei* I. Bol. were directly compared. They have no structural or colour differences, except that *spectrum* is slightly larger.

♂. Large and finely granulose. Antenna short; in basal part moderately wide; medial segments transverse; first segment of flagellum short, almost transverse, three others elongated. Fastigium of vertex above broadly obtusangulate, flat; in profile angulate; frons with obtusangulate excision at ocellus. Pronotum very large, with very high, leaf-like crest, its upper part broadly arcuate, posterior part steeply sloping backwards and shallowly irregularly serrated. Hind femur much shorter than pronotum, its upper margin compara-

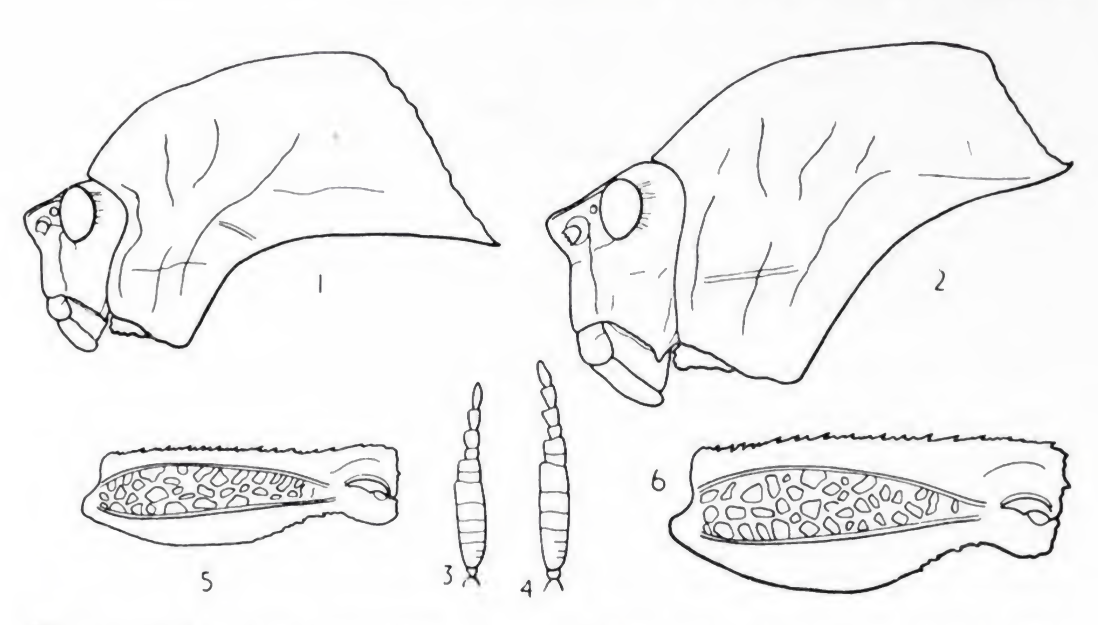


Fig. 7.—*Lobosceliana spectrum* (Sauss.). Male type of *X. saussurei* I. Bol., female type of *X. spectrum* Sauss. 1, head and pronotum, male. 2, ditto, female. 3, left, antenna, male. 4, ditto, female. 5, hind femur, male. 6, ditto, female.

tively finely serrated with small acute teeth; lower margin strongly widened and excurved, serrated in subapical part.

General colouration brownish without pattern. Wing infumate (specimen discoloured by previous preservation in spirit).

♀ (Type). Very large and finely granulose. Antena comparatively short; basal part moderately wide; medial segments transverse; first segment of flagellum short, three others elongated. Pronotum very large, with very high strongly compressed crest, its upper part broadly arcuate, posterior part steeply sloping backwards and shallowly irregularly serrated. Abdominal tergites with small dorsal, acute apical teeth. Hind femur shorter than pronotum, very strongly widened; upper margin finely serrated with small acute teeth; lower

margin strongly widened and excurved, serrated only in subapical part.

General colouration brown, without pattern. (Specimen discoloured by previous preservation in spirit.)

Length of body ♂ 50, ♀ 70; pronotum ♂ 24, ♀ 24; ♂ elytron 57; hind femur ♂ 17.5, ♀ 21 mm.

Specimens examined:

Angola: Quango, 1 ♀ (Type of *X. spectrum*). Caconda, 1 ♂ (Type of *X. saussurei*), 1 ♀. "Angola", 4 ♀.

N. Rhodesia: Lake Bangweulu, Chiluwi Island, 5 ♀.

Lobosceliana loboscelis (Schaum 1853) (Fig. 8).

1852. *Pamphagus loboscelis* Schaum, Ber. Verh. Akad. Wiss., 2: 780. Type ♀. Mozambique. Berlin Mus.

1887. *Xiphocera latipes* Saussure, Spic. Entom. Genav.: 32, 54, pl. 2, f. 12, 12a. Type ♀, R. Zambezi, Tete. Vienna Mus. *(Syn. n.)*

1902. *Xiphocera compressa* Kirby, Trans. ent. soc. Lond.: 96 Type ♂ nymph. Pretoria, Transvaal. British Mus. (Nat. Hist.) *(Syn. n.)*

I have compared directly the types of *P. loboscelis* Schaum and *X. latipes* Sauss. and fond them identical. Since I have had series of females and males from the same locality and date, it was possible to establish beyond doubt the male of *L. loboscelis* which was not known. The type of *X. compressa* Kirby is a male nymph of the last stage, conspecific with *L. loboscelis* Schaum.

♂. Large and finely granulose. Antenna long, ratio of its length to maximum diameter of eye 4.8; basal part comparatively narrow; first medial segment transverse, second elongated, slightly narrower than the basal part; flagellum with elongated segments, each one longer than the preceding. Fastigium of vertex almost flat, broadly angulate at apex; frons in profile obtusely excised at ocellus. Pronotum long with regularly arcuate crest and long posterior angle of metazona. Hind femur much shorter than pronotum, with excurved and roughly serrated lower margin. Apical valves of penis with strongly projecting and deeply serrated lateral lobes. Epiphallus with straight posterior margin.

General colouration light brownish. Wing infumate. Internal side of hind femur grey, lower side greyish with orange tinge; lower lobe of knee purplish. Internal side of hind tibia purplish.

♀ (Type). Large and finely granulose. Antenna long, ratio of its length to maximal diameter of eye 4.8; basal part comparatively

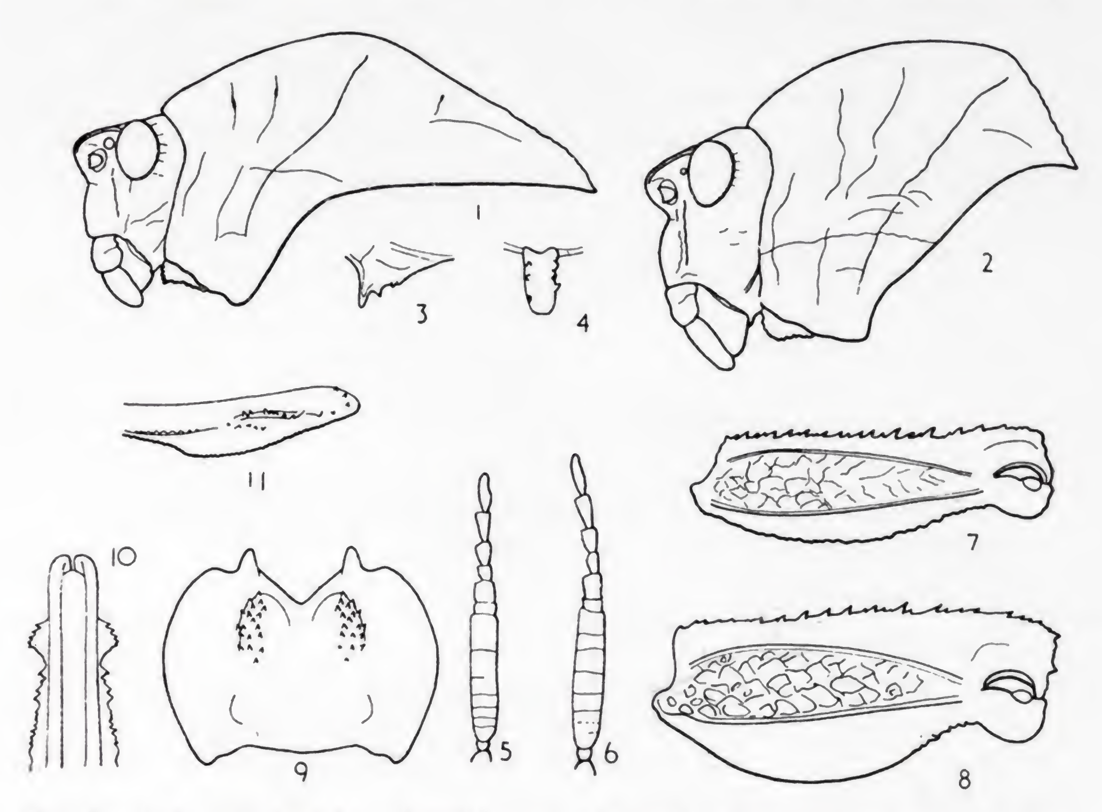


Fig. 8.—*Loboscelina loboscelis* (Schaum). 1, head and pronotum, male. 2, ditto, female. 3, prosternal tubercle, female, lateral view, from left side. 4, ditto, posterior view. 5, left antenna, male. 6, ditto, female. 7, hind femur, male. 8, ditto, female. 9, epiphallus. 10, apical valves of penis, from above. 11, ditto, lateral view. (Figs. 2, 3, 4, 8 drawn from the type.)

narrow; first medial segment transverse, second elongated, both slightly narrower than basal part; flagellum with elongated segments, each one longer than the preceding. Fastigium of vertex broadly angulate, almost flat; frons, in profile with a deep excision at ocellus. Pronotum comparatively short, with high, strongly arcuate crest, slightly serrated in metazona. Hind femur with margins widely expanded, lower one strongly excurved, serrated only in subapical part. Abdominal tergites without teeth.

General colouration ochraceous-brown. The type specimen discoloured by previous preservation in spirit.

Colouration of hind femur and tibia in other than type females is the same as in the male.

Length of body ♂ 52-57, ♀ 57.4-67; pronotum ♂ 21.5-22, ♀ 17-19.5; elytron ♂ 57-66; hind femur ♂ 18-19.5, ♀ 20-22.5 mm.

This species varies in the curvature of pronotal crest, and the length of metazona. The crest varies in males: from low to high arcuate and to a certain extent broadly angulate in females; height of crest and serration of metazona vary in a wide range. Frontal excision in both sexes varies from deep angulate to obtusangulate. Width of lower margin of hind femur in both sexes varies from very wide to moderately wide.

Specimens examined:

Mozambique: 1 ♀ (type of *P. loboscelis*). R. Zambesi, Tete, 1 ♀ (type of *X. latipes*).

Transvaal: Pretoria, 1 ♂ nymph (type of *X. compressa*).

S. Rhodesia: Odzi Dist., 9 ♂, 10 ♀.

N. Rhodesia: Abercorn, 1 ♀.

Nyasaland: Zomba, 1 ♀.

Matabeleland: 1 ♀.

Tanganyika: Kigoma, 9. 1918, 1 ♂, 1 ♀ (R. Mayne).

Belgian Congo: Elizabethville, 1-12. 1923-1952, 4 ♂, 8 ♀ (G. Swalne; Dr. Richard; Ch. Seydel; De Loose). Katanga: La Panda, 7.1923, 1 ♂. Kakyelo, 11.1930, 4 ♀ (G. F. de Witte). La Kafubu, 1931, 2 ♀ (R. P. v. Aelbroeck). Kapiri, 27.10.1930, 1 ♀ (G. F. de Witte). Sakania, 15.3.1938, 1 ♀ (H. J. Bredo).

Ruanda-Urundi: Kibungu, 12.1937, 1 ♂. Ruggari, 1 ♂.

Lobosceliana femoralis (Walker 1870) (Fig. 9).

1870. *Akicera femoralis* Walker, Cat. Derm. Salt. Brit. Mus., 3: 532, Type ♀. E. Africa. British Mus. (Nat. Hist.)

1902. *Xiphocera gibba* Kirby, Proc. zool. Soc. Lond.: 98. Type ♂ nymph. Between lakes Victoria and Tanganyika. British Mus. (Nat. Hist.) *(Syn. n.)*

A. femoralis Walk. was synonymized with *P. loboscelis* Schaum, by I. Bolivar in 1916, but I have compared the types of both species

and found them different. Therefore, *A. femoralis* is restored here as a valid species.

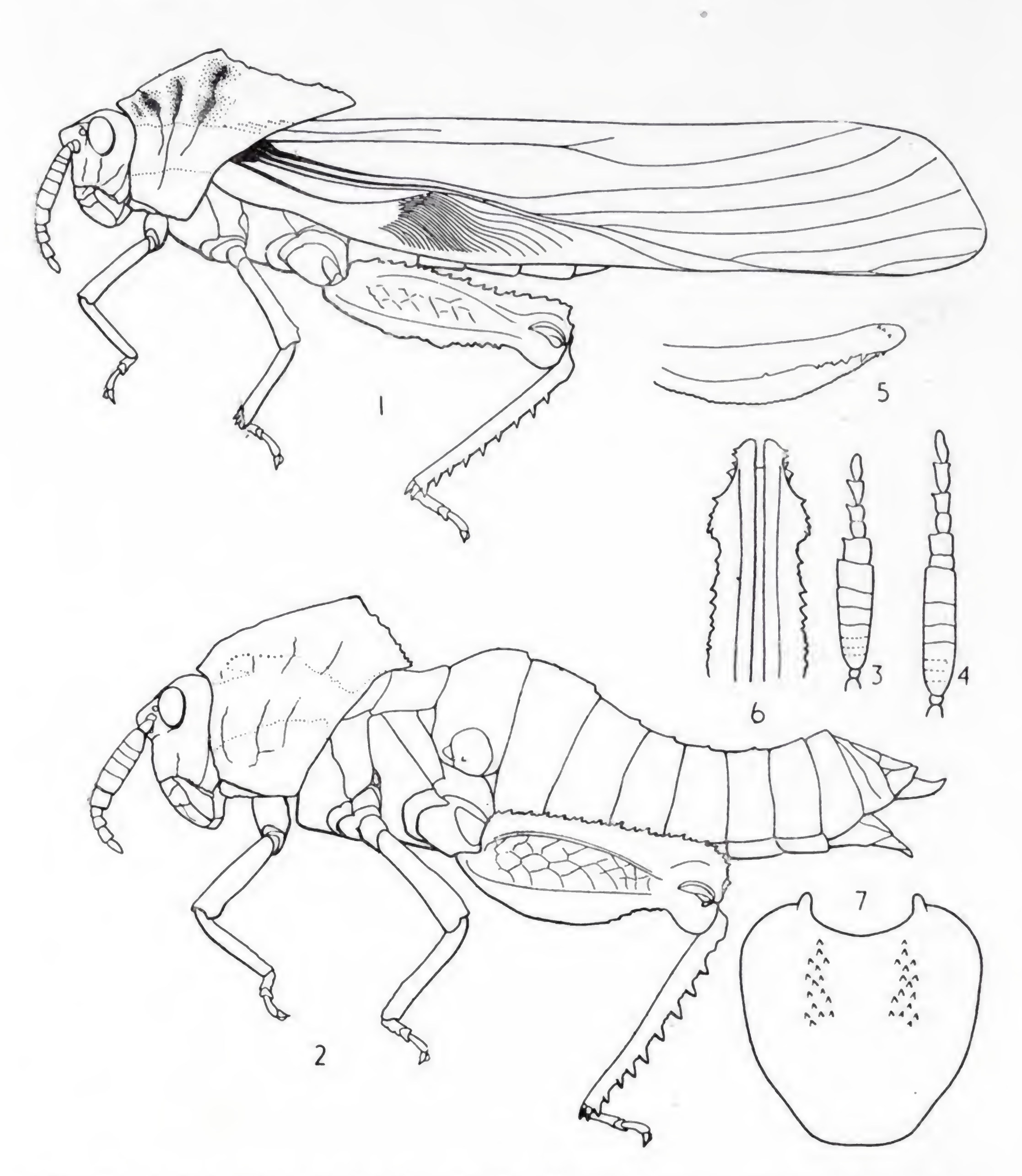


Fig. 9.—*Loboscelìana femoralis* (Walk). 1, male (from Tanganyika). 2, female type. 3, left antenna, male. 4, ditto, female. 5, apical valve of penis, lateral view. 6, apical valves of penis, from above. 7, epiphallus.

The type of *X. gibba* Kirby is a male nymph, which on comparison with a series of *L. femoralis* appears conspecific with it.

♂. Large, body moderately rugulose and granulose. Antenna moderately long; basal part wide, both medial segments wide, transver-

se, sometimes fused, second medial segment with an external apical projection; segments of flagellum slightly elongated, the second and third with external apical projections. Fastigium of vertex anguiate, flat; frons, in profile, with obtusangulate excision. Pronotum with high crest, comparatively strongly tuberculate and granulose. Hind femur about as long as pronotum; both margins strongly widened, upper margin with short acute teeth, lower irregularly serrated and with short obtuse teeth.

Apical valves of penis with moderately projecting and strongly serrated lateral lobes. Epiphallus with excurved posterior margin.

General colouration varies from grey to reddish-brown. Internal side of hind femur grey; internal side of hind tibia purplish. Wing infumate.

♀ (Type). Large body strongly rugulose, granulose and tuberculate. Antenna moderately long; basal part wide; medial segments wide, first transverse, second square; segments of flagellum elongated, second and third with external apical projections. Fastigium of vertex broadly angulate, flat, frons, in profile with a deep angulate excision at ocellus. Pronotum with high, moderately thin crest, forming an angle at the basal transverse sulcus, in metazona serrated. Abdominal tergites with only slight apical teeth. Hind femur longer than pronotum; both margins strongly expanded upper margin serrated, lower strongly excurved, with undulated and in subapical part serrated edge.

General colouration brown. Lateral lobe of pronotum with a broad pale-brownish stripe. Internal side of hind femur greyish. Internal side of hind tibia pale-wine-reddish.

Length of body ♂ 53, ♀ 58; pronotum ♂ 22.5, ♀ 19; elytron ♂ 59; hind femur ♂ 19, ♀ 23 mm.

Colouration in this species varies in both sexes from grey through pale brown and reddish-brown to dark brown. Body size in males 51-58, females 55-76 mm. Integument granulose to strongly tuberculate. Antennae vary in relative length, the segments of all parts may be relatively longer or shorter; the apical projections on the external side may disappear entirely. Hind femur in male may be as long or longer than pronotum; in female little longer or much longer than pronotum. Height of pronotal crest and its angle vary in both sexes, the sharp angle sometimes has a tendency to be slightly rounded.

Specimens examined:

Tanganyika: 1 ♀ (type of *femoralis*). Between lakes Victoria and Tanganyika, 1 ♂ nymph (type of *gibba*). Tinde 3 ♂, 2 ♀. Shinyanga Dist., nr. Lohumbo 9 ♂, 14 ♀. Old Shinyanga 1 ♂, 8 ♀. Kibariani Mt., Mpwapwa 2 ♂. Kahama 1 ♀ (E. Burtt). Moshi 1 ♀.

Belgian Congo: Katanga, Mulongo 1.1927, 1 ♀ (A. Bayet).

Loboscelіana cinerascens (Stål 1873) (Fig. 10).

1873. *Porthetis cinerascens* Stål, Recensio Orth., 1: 23. Type ♂. Caffraria, S. Africa. Stockholm Mus.

1887. *Xiphocera aestuans* Saussure, Spic. Ent. Genav.: 32, 52. Type ♂. Lourenço Marques, Port. E. Africa. Madrid Mus. *(Syn. n.)*

1915. *Lamarckiana salisburyana* I. Bolivar, Bol. Soc. esp. Hist. Nat., : 15: 89. Type ♂. Salisbury, Mashonaland. Madrid Mus. *(Syn. n.)*

1915. *Lamarckiana triangulum* I. Bolivar, Bol. Soc. esp. Hist. Nat., 15: 89. Type ♂. Salisbury, Mashonaland. British Mus. (Nat. Hist.) *(Syn. n.)*

All types of the synonyms mentioned were directly compared. The male type of *X. aestuans* Sauss. differs only by brownish colouration. *L. salisburyana* I. Bol. was described from a male and a female; the male which I am designating as the type, is conspecific with *L. cinerascens* St., and differs only by brown colouration; the female allotype is not this species but *L. loboscelis* Schaum. Male type of *L. triangulum* I. Bol. is also conspecific with *L. cinerascens.*

♂ (Type). Large and moderately strongly granulose. Antenna comparatively long; basal part comparatively narrow; medial segments narrow, almost of the same width and structure as two basal flagellum segments; first and second basal segments of flagellum are only slightly elongated, two apical segments twice as long as their width. Fastigium of vertex at apex angulate, flat; frons, in profile forms shallow broadly obtusangulate excision at ocellus. Pronotum long, with comparatively low, broadly arcuate crest; there are slight convexities between sulci. Elytron exceeds end of abdomen by length of pronotum. Hind femur as long as pronotum, both margins comparatively little expanded; upper margin with comparatively long acute teeth, lower one indistinctly serrated.

Lateral lobes of apical valves of penis moderately large, strongly serrated, with acute teeth. Epiphallus with roundly excurved posterior margin.

General colouration greyish-brown with indistinct pale stripe on lateral lobe of pronotum. Wing infumate. Hind femur and tibia discoloured (In fresh specimens, lower side of hind femur greyish, with an orange tinge; internal side of hind tibia purplish).

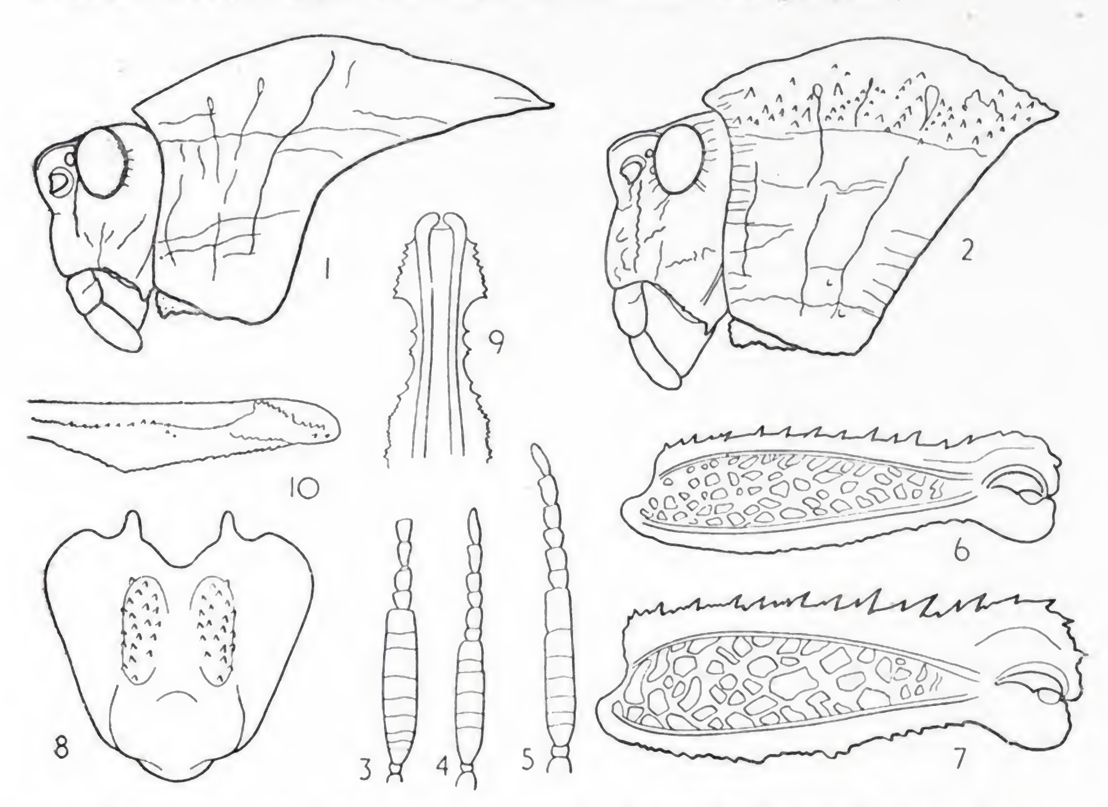


Fig. 10.—*Loboscelianα cinerascens* (St.). 1, head and pronotum male. 2, ditto, female. 3, 4, left antenna male (Fig. 3 type, two apical segments missing). 5, left antenna, female. 6, hind femur, male. 7, ditto, female. 8, epiphallus. 9, apical valves of penis, from above. 10, ditto, lateral view. (Figs. 1, 3, 6, drawn from the type.)

♀. Large, with body strongly rugulose, granulose and tuberculate. Antenna comparatively long; basal part comparatively narrow; medial segments slightly elongated, narrow almost of the same width and structure as two following segments of flagellum; first basal segment of flagellum as long as wide, second slightly elongated, two apical segments of flagellum elongated. Fastigium of vertex broadly angulate, flat, frons, in profile with a broadly obtusangulate excision. Pronotum comparatively short, with low broadly arcuate crest, strongly tuberculate and with convexities between transverse sulci, slightly

serrated in metazona. All abdominal tergites with small acute apical teeth. Hind femur comparatively long, much longer than pronotum, its upper margin with large acute teeth; lower margin comparatively little expanded, roughly serrated and with few obtuse teeth. Spines of hind tibia very large.

General colouration greyish with dark grey and brown spots, and indistinct pale grey stripe on lateral lobe of pronotum. Lower side of hind femur greyish with slight orange tinge. Hind tibia pale greyish.

Length of body ♂ 59, ♀ 69-71; pronotum ♂ 21, ♀ 18-20.5; ♂ elytron 64; hind femur ♂ 21.5, ♀ 23-24 mm.

Males vary in body size from 49-61 mm. and in the general colouration from pale-grey, with dark spots and stripes, to reddish-brown without any pattern. Third segment of flagellum of antenna is sometimes incompletely subdivided; the medial segment varies from transverse to elongated. Crest of pronotum has sometimes a tendendency to form an angle in profile. Depth of serration of margins of hind femur also may vary.

Specimens examined:

Cape Prov.: "Kaffraria", 1 ♂ (type of *P. cinerascens*).
Mozambique: Lourenço Marques, 1 ♂ (type of *X. aestuans*).
Transvaal: Pretoria, 2 ♂, 2 ♀. Koedoesport, 1 ♂, 1 ♀.
S. Rhodesia: Salisbury, Mashonaland, 1 ♂ (type of *L. salisburyana*); 1 ♂ (type of *L. triangulum*). Salisbury, 1 ♂. Hartley, 1 ♂. Odzi Dist., 1 ♂. Selukwe, 1 ♀.

Loboscelianа gilgilensis (I. Bolivar 1915) (Fig. 11).

1915. *Lamarckiana gilgilensis* I. Bolivar, Bol. Soc. esp. Hist. Nat., 15: 88. Type ♂. Gilgil, Kenya. Paris Mus.

♂. Large, moderately rugulose and granulose. Antenna comparatively long; basal part relatively narrow; medial segments only slightly narrower than basal part; flagellum comparatively short, with segments elongated. Fastigium of vertex broadly angulate, flat, scarcely concave, in profile, rounded; frons at ocellus with a shallow ex-

cisión. Pronotum long, with high, moderately thin, angular crest; metazona weakly undulate, between sulci there are irregular convexities. Hind femur about as long as pronotum; upper margin serrated, with moderately long acute teeth; lower margin moderately strongly expanded and with irregular obtuse, in subapical part acute, teeth.

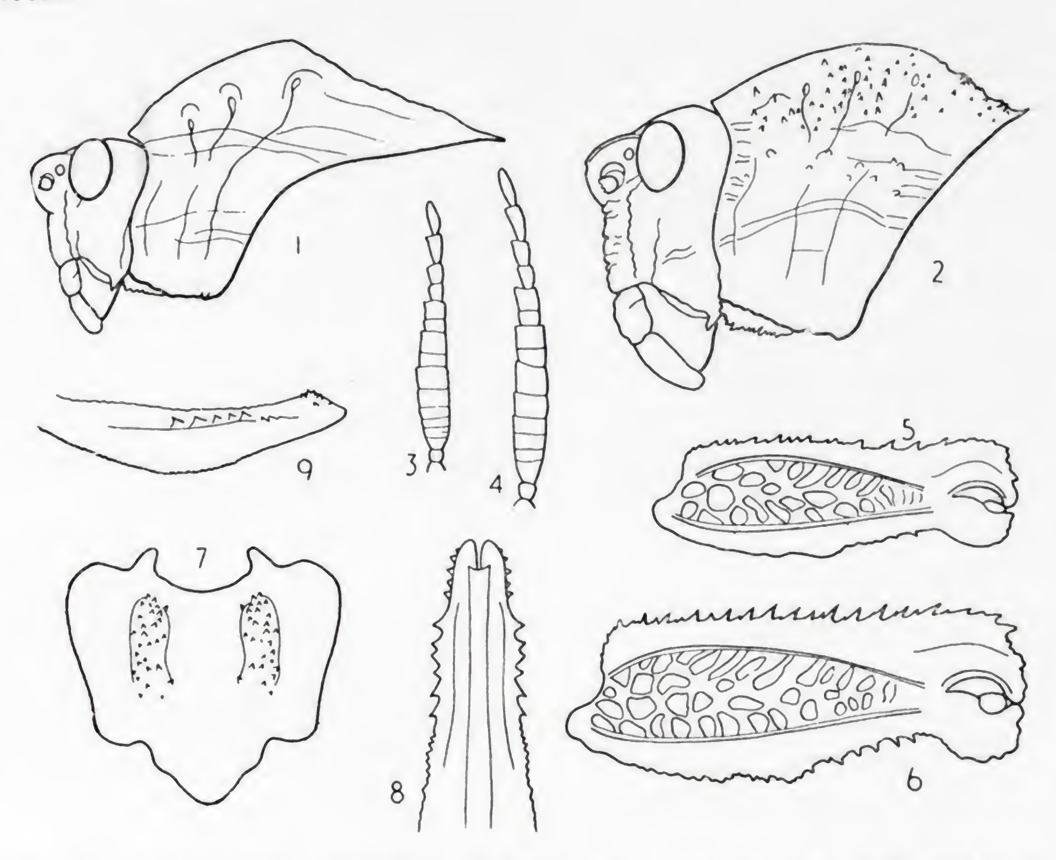


Fig. 11.—*Lobosceliana gilgilensis* (I. Bol.). 1, head and pronotum, male. 2, ditto, female. 3, left antenna, male. 4, ditto, female. 5, hind femur, male. 6, ditto, female. 7, epiphallus. 8, apical valves of penis, from above. 9, ditto, lateral view.

Lateral lobes of apical valves of penis comparatively narrow with large, strongly acute teeth. Epiphallus with angulate posterior margin.

General colouration varies from grey to brown, with indistinct dark brown spots and stripes. Internal side of hind femur grey; lower side grey with orange tinge. Internal side of hind tibia purplish. Wing infumate.

♀. Large, strongly rugulose, granulose and tuberculate. Antenna comparatively long; basal part relatively narrow; medial segments slightly narrower than basal part; flagellum with elongated segments. Fastigium of vertex broadly angulate, flat, scarcely concave; in pro-

file, rounded; frons at ocellus with very shallow obtuse angulate excision. Pronotum strongly sculptured with tubercles, comparatively short, moderately high, with crest, in profile, broadly arcuate, in metazona shallowly serrated. Abdominal segments with short, acute apical teeth. Hind femur longer than pronotum; upper margin with acute, moderately large teeth, lower margin moderately excurved, with irregular serration and acute teeth in subapical part.

General colouration from grey to brown. Internal side of hind femur grey, lower side grey with orange tinge. Internal side of hind tibia purplish grey.

Length of body ♂ 48-50.5, ♀ 54-70; pronotum ♂ 17-20, ♀ 15-17; ♂ elytron 61-64; hind femur ♂ 17.5-19, ♀ 23-25.5 mm.

Specimen examined:

Kenya: Naivasha, 4 ♀. Nairobi, 1 ♂, 1 ♀. Emali Range, Sultan Hamud, 1 ♀. Ngobit, Aberdare Mts., 7000 ft. 1 ♀.
Uganda: S. Karamoja, 1 ♂.

Loboseliana brevicornis (I. Bolivar 1915) (Fig. 12).

1915. *Lamarckiana brevicornis* I. Bolivar, Bol. Soc. esp. Hist. Nat.: 15: 87. Type ♂. Salisbury, Mashonaland. Madrid Mus.
1929. *Lamarckiana kilosana* Miller, Trans. ent. Soc. Lond., 77: 80, pl. 10, f. 45-49. Type ♀. Kilosa, Tanganyika. British Mus. (Nat. Hist.) *(Syn. n.)*

L. brevicornis was described from male and female specimens, both from Salisbury, 5000 feet, but the female was collected in November 1899 and the male in December of the same year. I designate the male as the type. Its comparison with the male paratype of *L. kilosana* Miller which was described on the basis of two males and four females, female being the type, showed them to be conspecific. The female of *L. brevicornis,* described by I. Bolivar, belongs to another species. The end of its abdomen is damaged, but integument at the time of collecting was soft and thin, and after drying, partly shrunk, suggesting that it is probably a nymph of the last stage. Since the males of *brevicornis* and *kilosana* are identical and male and female

of *kilosana* undoubtedly belong to the same species, it is possible to refer the female of *kilosana* to *brevicornis*.

♂ (Type). Large, with strongly granulose and tuberculate pronotum. Antenna short, ratio of its length to maximal diameter of eye is about 3.8; basal part comparatively wide; both medial segments

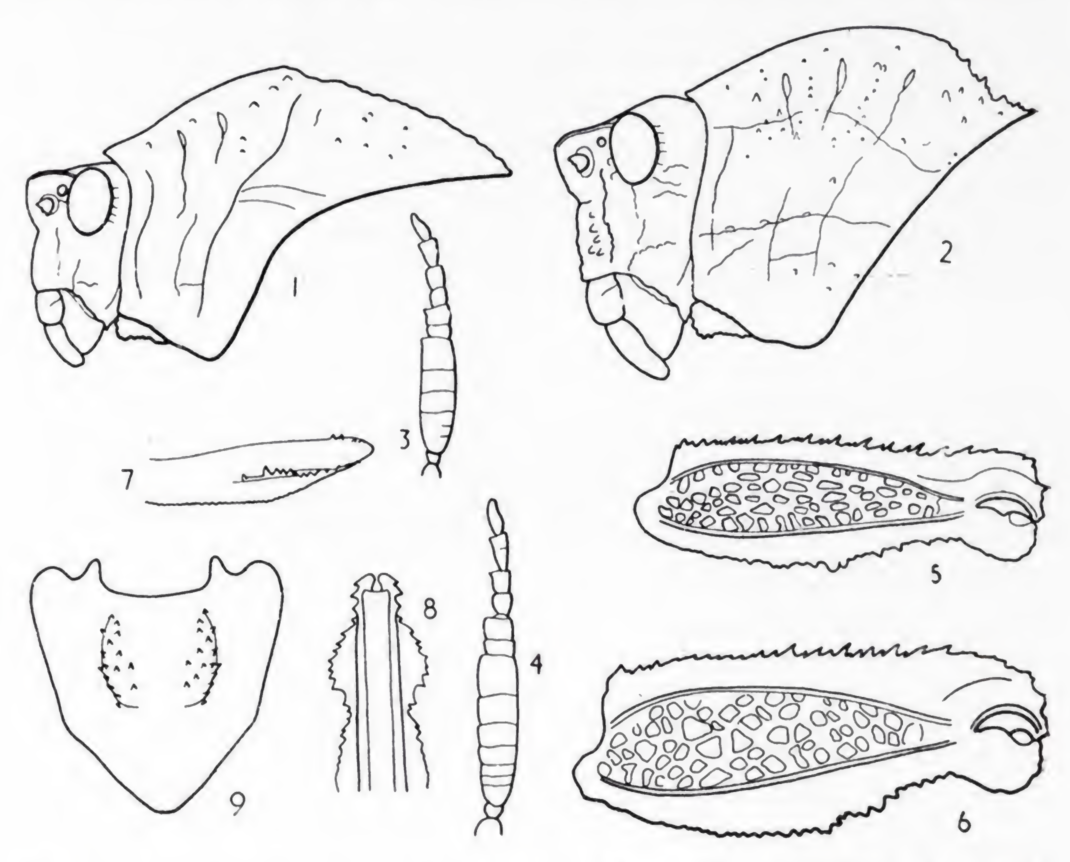


Fig. 12.—*Loboscelíana brevicornis* (I. Bol.). Male type of *L. brevicollis* I. Bol., female type of *L. kilosana* Mill. 1, head and pronotum, male. 2, ditto, female. 3, left antenna, male. 4, left antenna, female. 5, hind femur, male. 6, hind femur, female. 7, apical valves of penis, lateral view. 8, ditto, from above. 9, epiphallus. (Figs. 7, 8, 9, drawn not from type specimen.)

transverse; two basal segments of flagellum short, only slightly longer than their width, two apical segments elongated. Fastigium of vertex almost flat, angulate at apex, in profile angulate; frons at ocellus with obtusangulate excision. Pronotum long, crest, in profile, broadly obtusangulate, comparatively thick, with strong convexities between sulci, in profile serrated in metazona. Hind femur as longas pronotum; upper margin serrated with acute, moderately long teeth, lower margin moderately widened and excurved, serrated with irregular obtuse and subacute teeth.

Lateral lobes of apical valves of penis comparatively large, with

strong acute teeth. Epiphallus with angulate, obtuse at apex, posterior margin.

General colouration brown with irregular dark brown spots, and with pale brown stripe along middle of lateral lobe of pronotum continuing on head. Lower side of hind femur greyish-orange; internal side of hind tibia purplish. Wing brownish infumate.

♀. Large, with body strongly sculptured with teeth, tubercles and wrinkles. Antenna short, ratio of its length to maximal diameter of eye about 4.4; basal part comparatively wide; both medial segments transverse; two basal segments of flagellum short, only slightly longer than their width, the second one with external apical projection; two apical segments elongated. Fastigium of vertex angulate, shallowly concave; in profile angulate, at ocellus forms obtuse angle with frons. Pronotum with high arcuate crest, serrated in metazona, strongly sculptured with tubercles, with convexities between sulci. Hind femur with both margins strongly expanded; upper margin with acute moderately long teeth; lower margin with obtuse and subacute teeth on whole length. Abdominal tergites without teeth.

General colouration brown; pronotum with dark brown stripe on lower part of lateral lobe and in upper part of metazona; on the middle of lateral lobe, wide, pale-brown stripe. Lower side of hind femur greyish-orange; internal side of hind tibia dirty purplish.

Length of body ♂ 52, ♀ 71; pronotum ♂ 19.5, ♀ 18.5; ♂ elytron 57; hind femur ♂ 18.5, ♀ 24.5 mm.

Specimens examined:

S. Rhodesia: the male type from Salisbury, Mashonaland, 5000 ft.
Tanganyika: one male and three females (including type) from the series originally described as *L. kilosana* from Kilosa and Uliya.

Loboseeliana rugosipes (Kirby 1902) (Fig. 13).

1902. *Xiphocera rugosipes* Kirby, Trans. ent. Soc. Lond.: 94. Type ♀. Transvaal. British Mus. (Nat. Hist.)

♀ (Type). Large, extremely strongly tuberculate and rugulose. Antenna long, comparatively narrow; basal part narrow with only three distinctly divided segments; medial segments narrower than ba-

sal part, first transverse, second elongated, with external apical projection; flagellum with elongated segments, second and third with acute external apical projection. Fastigium of vertex broadly angulate, concave, in profile forms at ocellus an acute angle with frons. Whole head extremely strongly tuberculate. Pronotum short, strongly tuberculate and toothed, particularly between transverse sulci, with comparatively low, arcuate crest, in metazona roughly serrated. Abdominal tergites with short, acute apical teeth. Hind femur much longer than pronotum; its upper margin with large acute teeth; lower margin moderately expanded, with large obtuse and acute teeth.

General colouration brownish (specimen discoloured by previous preservation in spirit).

Length of body ♂ 69.5, pronotum 14.6, hind femur 25.8 mm.

Only the type is known.

Losceliana haploscelis (Schaum 1853) (Fig. 13).

1853. *Pamphagus haploscelis* Schaum, Ber. Verh. Akad. Wiss., Berlin, 2: 780. Type ♀. Mozambique. Berlin Mus.

♂. Of moderate size, moderately rugulose and granulose. Antenna short, basal part strongly widened; medial segments almost as wide as basal part, short, transverse; flagellum short, less than half the width of basal part; first and second segments slightly wider than their length; third and fourth elongated. Fastigium of vertex above elongated, slightly concave, with obtusangulate, almost rounded apex; in profile, strongly projecting and acutangulate. Pronotum with moderately high arcuate crest, roughly serrated in metazona. Upper margin of hind femur with moderately large acute teeth, lower margin with small obtuse teeth. First and second abdominal tergites with apical teeth.

Apical valves of penis from above, with slightly widened apices, in profile, widened in median part and narrowing towards apices; margins finely serrated. Epiphallus wide, with a pair of clusters of small teeth and with deeply and widely excised posterior margin.

General colouration brown. Across head and on lateral lobes of pronotum there is a wide light brown stripe. Remigium of wing infumate, vannus light-ochraceous.

♀ (Type). Of moderate size, rugulose. Antenna short, strongly widened in basal part; medial segments almost as wide as basal part, first segment short, transverse, sceond slightly wider than its length;

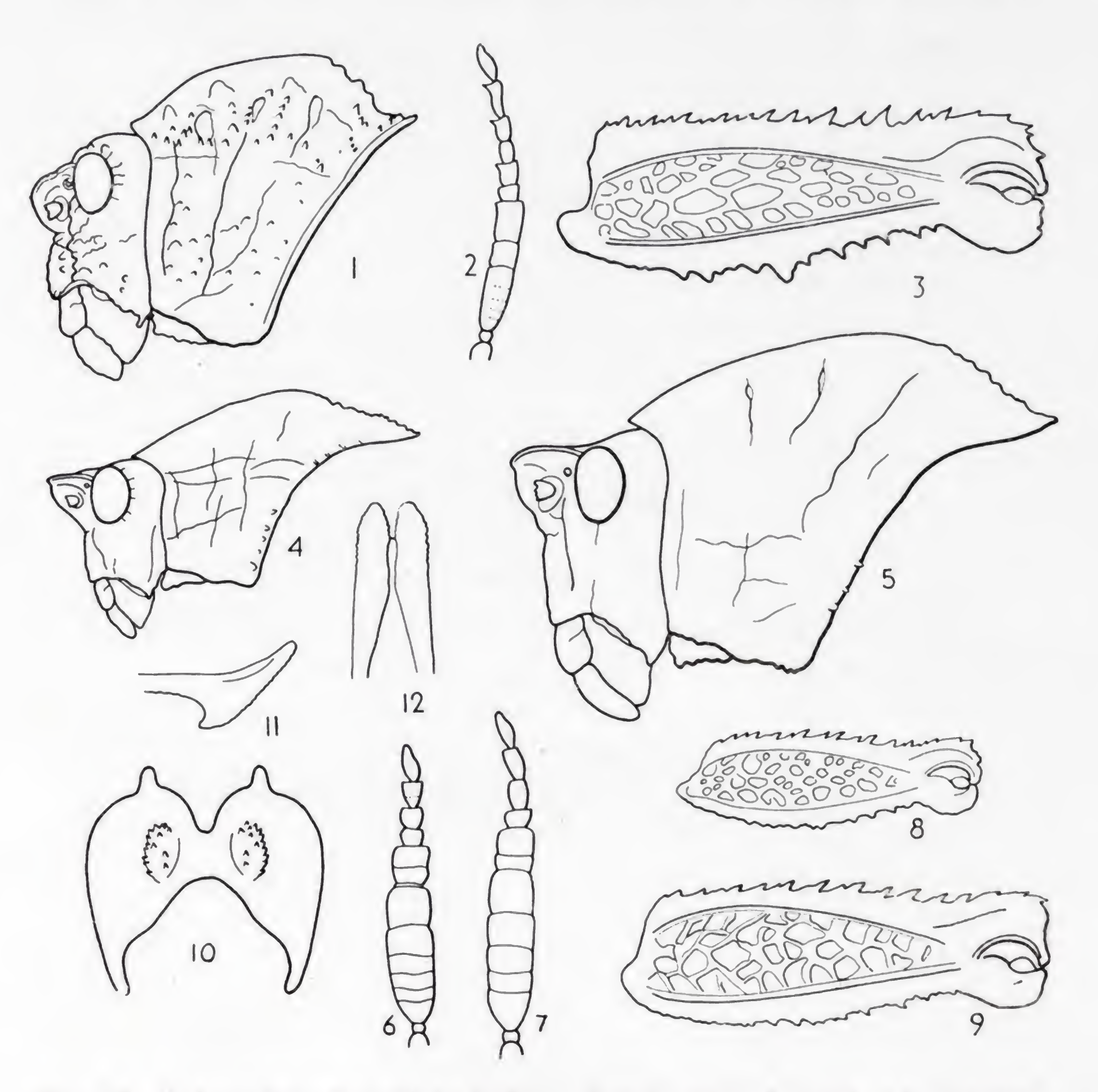


Fig. 13.—*Lobosceliana rugosipes* (Kirby). Female type. 1, head and pronotum. 2, left antenna. 3, hind femur; *Lobosceliana haploscelis* (Schaum). Female type, male from Nyassaland. 4, head and pronotum, male. 5, ditto, female. 6, left antenna, male. 7, ditto, female. 8, hind femur, male. 9, ditto, female. 10, epiphallus. 11, apical valves of penis, lateral view. 12, ditto, from above.

flagellum short, less than half width of basal part. first segment wider than its length, other segments elongated. Fastigium of vertex above with broadly angulate apex, slightly concave; in profile strongly angularly projecting. Pronotum with high arcuate crest, roughly serrated in metazona. Upper margin of hind femur with large acute

teeth, lower margin with irregular small acute teeth. All abdominal tergites with small acute apical teeth.

General colouration brown (the specimen is greatly discoloured).

Length of body ♂ 34, ♀ 47: pronotum ♂ 13.5, ♀ 18.3; elytron ♂ 33.6; hind femur ♂ 14.7, ♀ 18 mm.

Specimens examined:

Mozambique: 1 ♀, type.

Nyasaland: Zomba, 3 ♂, 2 ♀.

In three male specimens from the same locality (Zomba) the crest of pronotum, in profile, varies from low arcuate to almost angulate.

Xiphoceriana gen. n.

Generic type: *Xiphocera brunneriana* Saussure 1887.

Large, with strongly sculptured integument; female much more robust than male.

Antenna in basal part strongly widened, and strongly compressed, with only one, sometimes incompletely divided, medial segment; flagellum four-segmented, short, much narrower than basal part and medial segment. Fastigium of vertex and upper part of frons strongly projecting forwards, above angulate, with low marginal carinulae. Pronotum with high strongly compressed crest, with three fenestrae, roughly serrated, or serrated and toothed in metazona. Prosternal tubercle broadly cuneiform with bifurcate or three — four toothed apex and rows of teeth on posterior surface and collar. Upper margin of hind femur slightly incurved in preapical part, with large teeth, lower margin with smaller teeth. Male macropterous; elytron far exceeds end of abdomen, with strongly excurved anterior and obliquely truncate apical margin; female apterous. Male subgenital plate conical; cercus compressed, conical, with apical part slightly upcurved. Female subgenital plate with broadly obtusangulate apex; valves of ovipositor short, slightly curved. Supra-anal plate, in both sexes, with acutangulate apex and deep longitudinal sulcus in middle.

Apical valves of penis with finely serrated sides. Epiphallus, except in one species, with large projection in the middle of posterior margin.

The main differences of the genus from the other genera of the group are the four-segmented flagellum and the single-segmented medial part of antenna; strongly toothed and slightly incurved upper margin of hind femur and the projecting posterior margin of epiphallis.

Key to species.

Males.

1 (6). Crest of pronotum ab basal sulcus lowered step-like towards metazona (Figs. 14, 16, 17).

2 (3). Fastigium of vertex ascending, longer than its width. Crest of pronotum crossed by basal sulcus (Fig. 14). Basal part of wing sulphureous. Small, body up to 37 mm. .... **atrox** (Gerst.).

3 (2). Fastigium of vertex horizontal as wide as its length or wider. Crest of pronotum not crossed by basal sulcus (Figs. 16, 17). Basal part of wing infumate. Large, body up to 60 mm.

4 (5). Fastigium of vertex, in profile rounded. Antenna narrower, with relatively longer and narrower flagellum. Hind femur relatively longer (Fig. 16). .... **cristata** (Sauss.).

5 (4). Fastigium of vertex, in profile, acutangulate. Antenna wider, with relatively shorter and wider flagellum. Hind femur relatively shorter (Fig. 17). .... **arabica** (Uv.).

6 (1). Crest of pronotum arcuate on whole length (Fig. 15). .... **brunneriana** (Sauss.).

Females.

1 (6). Crest of pronotum, angulate or with step-like lowered metazona (Figs. 14, 16, 17).

2 (3). Fastigium of vertex, in profile, acutangulate, with very acute apex (Fig. 17). .... **arabica** (Uv.).

3 (2) Fastigium of vertex, in profile, angulate, but with the apex obtuse (Figs. 14, 16).

4 (5). Fastigium of vertex, in profile, horizontal (Fig. 16). Body extremely strongly sculptured. .... **cristata** (Sauss.).

5 (4). Fastigium of vertex, in profile, slightly ascending (Fig. 14). Body less sculptured. .... **atrox** (Gerst.).

6 (1). Crest of pronotum, in profile, arcuate (Fig. 15). .... **brunneriana** (Sauss.).

Xiphoceriana atrox (Gerstaecker 1869) (Fig. 14).

1869. *Pamphagus atrox* Gerstaecker, Arch. Naturgesch., 35 (1): 218. Type ♀. Endara mountains, E. Afr. Berlin Mus.
1896. *Xiphocera stuhlmanniana* Karsch., Stett. Ent. Zeir.: 275. Type ♀. Mpwapwa, Tanganyika. Berlin Mus. *(Syn. n.)*

I have studied the type of *P. atrox* Gerst. and male and female specimens of *X. stuhlmanniana* Karsch from the original series. I designate the male of *stuhlmanniana* as the type.

In the single female type of *atrox* the left antenna has oniy the basal part; right antenna superficially looks undamaged, but closer examination revealed that the two apical segments of flagellum are affixed with glue. It is most probable that when broken, one segment was lost and the two remaining apical segments were glued. Saussure, when redescribing the type (Spic. Ent. Genav., 1879, p. 54), did not notice the missing segment and mentioned flagellum as three-segmented when in fact it is four-segmented, as it is in *X. stuhlmanniana*. The other characters in both species are so extremely close that they cannot be regarded as more than individual variations.

♂. Of medium size, rugulose and granulose. Antenna short, strongly widened in basal part; medial segment almost of the same width as basal part, with faint trace of transverse suture. Fastigium of vertex above angulate with parabolic apex, in profile, angularly projecting. Pronotum with high, arcuate crest, which is strongly excised at basal sulcus and serrated in metazona. Prosternal tubercle cuneiform, with deeply bilobate apex and large teeth and tubercles on posterior surface. Upper margin of hind femur with large acute teeth, lower margin with small subacute and obtuse teeth. First and second abdominal tergite with apical teeth.

Apical valves of penis rather wide, with rounded apices and finely serrated lateral margins. Epiphallus wide and comparatively short, with very widely rounded posterior margin.

General colouration brownish-grey. Head and anterior half of lateral lobe of pronotum with wide, ochraceous grey, longitudinal stripe. Remigium of wing infumate, vannus matt sulphureous. Internal side of hind tibia bluish.

♀ (Type). Moderately large, rugulose and granulose. Antenna short, strongly widened in basal part; medial segment almost as wide

as basal part, with faint transverse suture; flagellum short, about one third the width of the basal part, first segment wider than its length, other segments elongated. Fastigium of vertex above broadly angulate, with apex rounded, in profile angularly projecting forwards, with rounded apex. Pronotum with high angulate crest, metazona with strong acute teeth. Prosternal tubercle cuneiform with bilobate apex

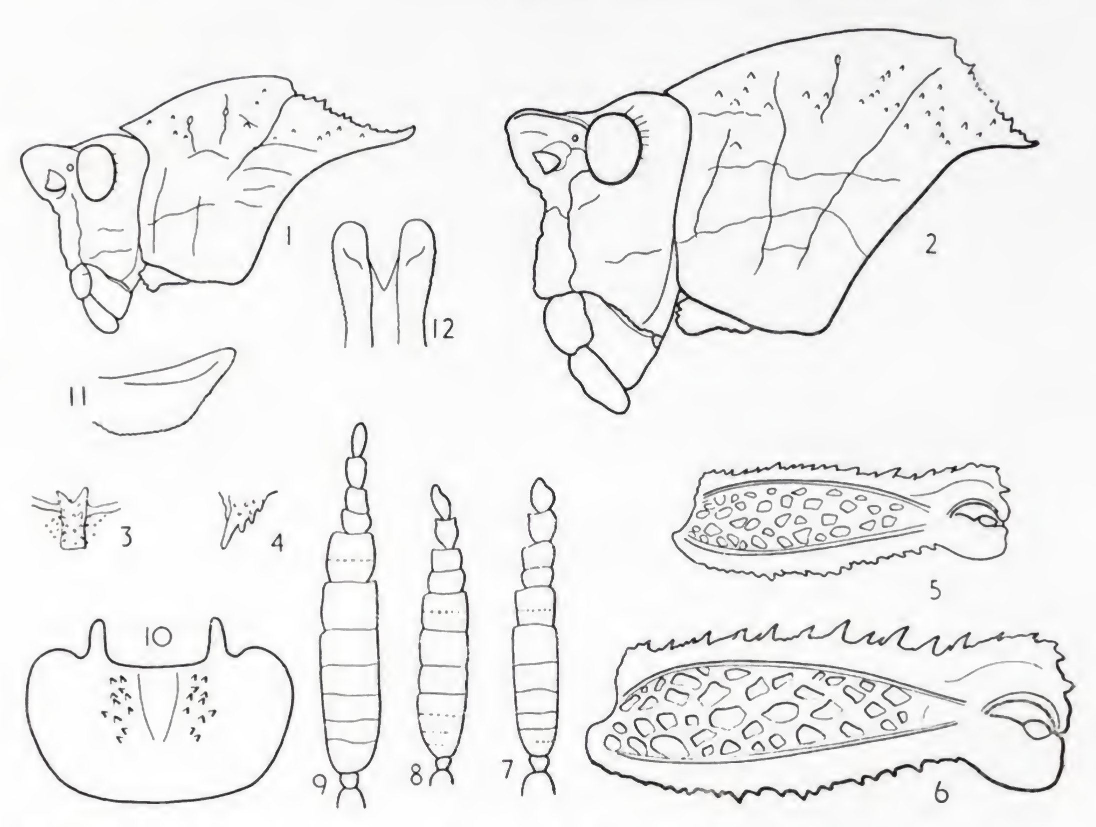


Fig. 14.—*Xiphoceriana atrox* (Gerst.). 1, head and pronotum, male. 2, ditto, female. 3, prosternal tubercle, posterior view. 4, ditto, lateral view, from left side. 5, hind femur, male. 6, ditto, female. 7, left antenna, male, drawn from cotype. 8, ditto, male, one from long series. 9, ditto, female. 10, epiphallus. 11, apical valves of penis, lateral view. 12, ditto, from above. (Figs. 1, 2, 3. 4, 5, 6, 7, 9 are drawn from cotypes of *X. stuhlmanniana*).

and large teeth and tubercles on posterior surface. Upper margin of hind femur with large acute teeth, lower margin with small subacute teeth.

General colouration brownish-grey with light greyish stripe on lateral lobe of pronotum.

Length of body ♂ 35-40, ♀ 46 (shrunk) - 72; pronotum ♂ 12-13, ♀ 15.5-17.5; elytron ♂ 31.5-35; hind femur ♂ 13.6-15.0, ♀ 18-21.6 mm.

Specimens examined:

Tanganyika: Endara Mountains, 1 ♀ (type of *P. atrox*). Mpwapwa, 1 ♂, 1 ♀ (type and paratype of *X. stuhlmanniana*). Maungu, 1 ♀. Old Shinyanga, March-July, 56 ♂, 14 ♀ (E. Burtt).

Kenya: Mombasa, 1 ♀ (E. Burtt).

Somalia: Lugh Ferrandi, 1 ♀.

The long series from Old Shinyanga probably represents a local population, which differs by more stout body and less angulate and thicker crest of pronotum in females and narrower flagellum of antenna in males. The series varies also in the height and the angle of pronotal crest, in length of the teeth on the margins of hind femur and in the length of antenna.

Xiphoceriana brunneriana (Saussure 1887) (Fig. 15).

1887. *Xiphocera brunneriana* Saussure, Spic. Ent. Genav.: 31, 43, pl. 2, f. 7, 7a, 7b. Type ♀. Massawa, Eritrea. Vienna Mus.

♂. Large, strongly granulose and tuberculate. Antenna short, strongly widened in basal part, with medial segment slightly longer than its width; flagellum short, half width of basal part, two basal segments as long as their width, two apical segments elongated. Fastigium of vertex above elongated, slightly concave, with comparatively sharp marginal carinulae; in profile angulate and strongly projecting forwards. Pronotum with high, arcuate crest, which is strongly serrated in metazona. Prosternal tubercle cuneiform, with bilobate apex and numerous large teeth, on posterior surface and prosternal collar. Upper margin of hind femur with long acute teeth, lower margin with small obtuse teeth. First and second abdominal tergites with apical teeth.

Apical valves of penis widened at apex and finely serrated on sides. Epiphallus with large, finger-shaped posterior appendix.

General colouration greyish-brown. Wing infumate, more so in remigium and less in vannus. Hind tibia of the same uniform colouration as whole body.

♀ (Type). Large, whole body strongly granulose and tuberculate. Antenna short, strongly widened in basal part; medial segment slightly

wider than its length; flagellum short, two basal segments transverse, two apical segments elongated. Fastigium of vertex as long as its width, with angulate apex, slightly concave, with sharp marginal carinulae; in profile, strongly projecting, angulate; frons, in profile, serrated. Pronotum with high, strongly compressed arcuate crest, which

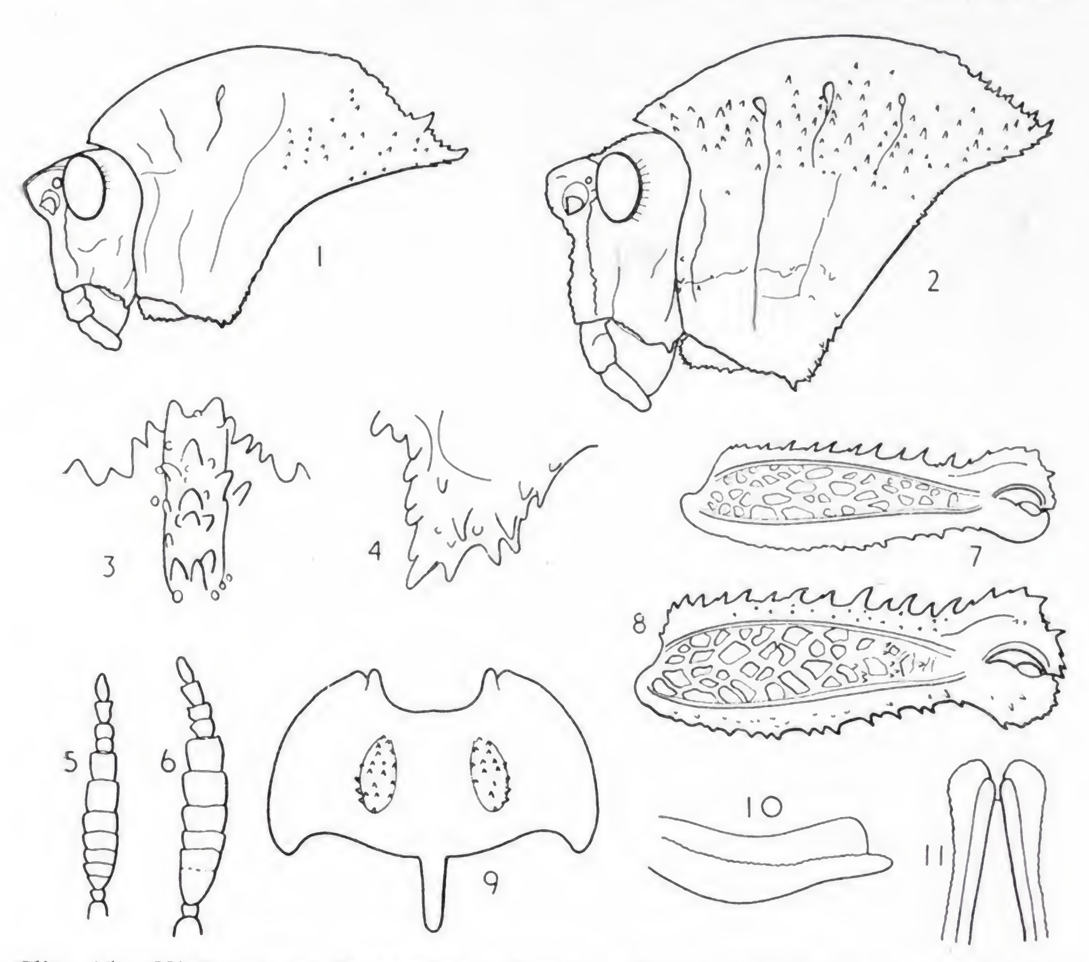


Fig. 15.—*Xiphoceriana brunneriana* (Sauss.). Female, specimen compared with the type, male from topotypical locality. 1, head and pronotum, male. 2, ditto, female. 3, prosternal tubercle, female, posterior view. 4, ditto, lateral view, from left side. 5, left antenna, male. 6, ditto, female. 7, hind femur, male. 8, ditto, female. 9, epiphallus. 10, apical valves of penis, lateral view. 11, ditto, from above.

is serrated in metazona. Upper margin of hind femur with large acute teeth, lower margin with smaller acute teeth. All abdominal tergites with small, acute apical teeth.

General colouration grey. All parts, including hind tibia, of the same general colour.

Length of body ♂ 54-56, ♀ 63-65; pronotum ♂ 20-22, ♀ 19-24; elytron ♂ 54-61; hind femur ♂ 19-20, ♀ 21-22 mm.

*

Specimens examined:

Eritrea: Massawa, 1 ♀, type.
Sudan: Sinkat, 1 ♀. Erkowit, 3 ♀, 2 ♂. Eeriba, Red Sea, 1 ♂.
Somaliland: Burao, 1 ♂ (E. F. Peck). Surud Hills, N.W. of Erigavo, 6000 ft., 1 ♀ (A. R. Tribe).
Somalia: Mogadishu, 5.VII.1937, 1 ♂.
Ethiopia: Sagan-Omo, Banno Tartale, 3.V.1939, 1 ♂ (E. Zavattari).

The type of the species corresponds reasonably well with other available female specimens. The males, collected at Erkowit with females, allow to refer them to the same species.

Xiphoceriana cristata (Saussure 1887) (Fig. 16).

1887. *Xiphocera cristata* Saussure, Spic. Ent. Genav.: 31, 44, pl. 2, f. 9. Type ♂. «Somal in meridione sinus Adenis», lost.

I have not studied the type of the species, but several specimens from Somaliland, which correspond reasonably well with the description and figure, were used for re-description.

♂. Large, body finely granulose and rugulose. Antenna short; basal part strongly widened; medial segment slightly longer than its width; flagellum comparatively long, with all segments elongated. Fastigium of vertex above broadly angulate, almost flat, with obtuse apex; in profile, strongly projecting, with rounded apex. Pronotum with high, strongly compressed and strongly angulate crest, strongly serrated in metazona. Prosternal tubercle cuneiform with bilobate apex and numerous small teeth or tubercles on posterior surface. Upper margin of hind femur comparatively little widened, with acute teeth; lower margin with small obtuse teeth. First and second abdominal tergites with small acute teeth.

Apical valves of penis strongly widened at apex, with finely serrated lateral margins. Epiphallus with short posterior fingershaped projection.

General colouration brownish grey; remigium of wing infumate; basal and internal part of vannus slightly lemon-yellowish. Internal side of hind tibia slightly purplish.

♀. As the male, but of larger size and more robust in thoracic region. Fastigium of vertex relatively broader. Frons, in profile, serrated. Pronotum, in profile, more obtusangulate. Prosternal tubercle cuneiform with toothed apex and numerous teeth and tubercles on posterior surface. Both margins of hind femur more widened than

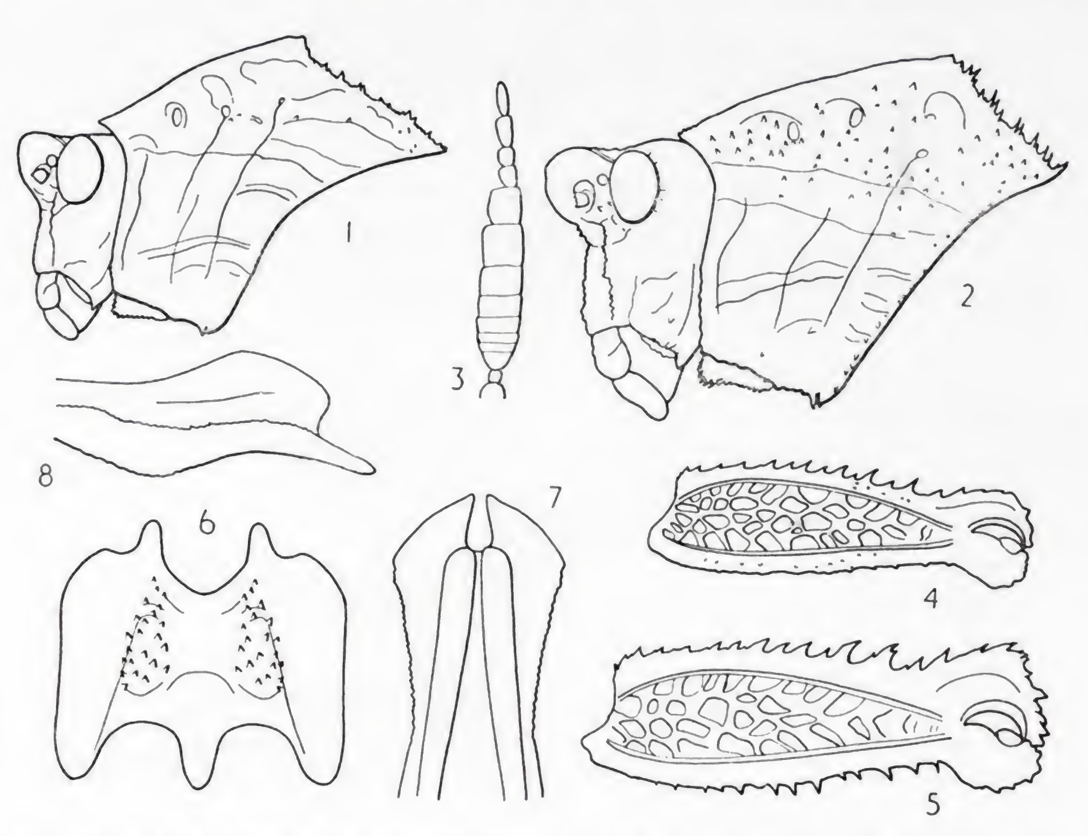


Fig. 16.—*Xiphoceriana cristata* (Sauss.). 1, head and pronotum, male. 2, ditto, female. 3, left antenna, male. 4, hind femur, male. 5, ditto, female. 6, epiphallus. 7, apical valves of penis, from above. 8, ditto, lateral view.

in male, and both with acute teeth. All abdominal tergites with short acute apical teeth.

General colouration brownish, with whitish lateral stripe along whole body and scattered whitish and dark spots. Hind tibia greyish.

Length of body ♂ 51-59, ♀ 66; pronotum ♂ 14.5-17, ♀ 19; elytron ♂ 55-59; hind femur ♂ 17.6-20.5, ♀ 22.5 mm.

Specimens examined:

Somaliland: 3 ♂ (D. Greathead). Haud, 1 ♂.

Ethiopia: Ogaden, Wadere, 1 ♂ (G. Popov). Ogaden, 1 ♀ (C. Ashall).

Kenya: Lower Tana, Sabaki, 1 ♂ (Turner).
Somalia: Belet Uen, 1 ♂ (G. Popov).

Xiphoceriana arabica (Uvarov 1922) (Fig. 17).

1922. *Saussureana arabica* Uvarov, Konowia, 1 (4-5): 188. Type ♂. «Arabia meridionalis: Ktubu ad limitem Yemen». British Mus. (Nat. Hist.)

♂ (Type). Large, strongly granulose and rugulose. Antenna short, basal part strongly widened; medial segment almost as wide as basal part, wider than its length; flagellum short, much narrower than

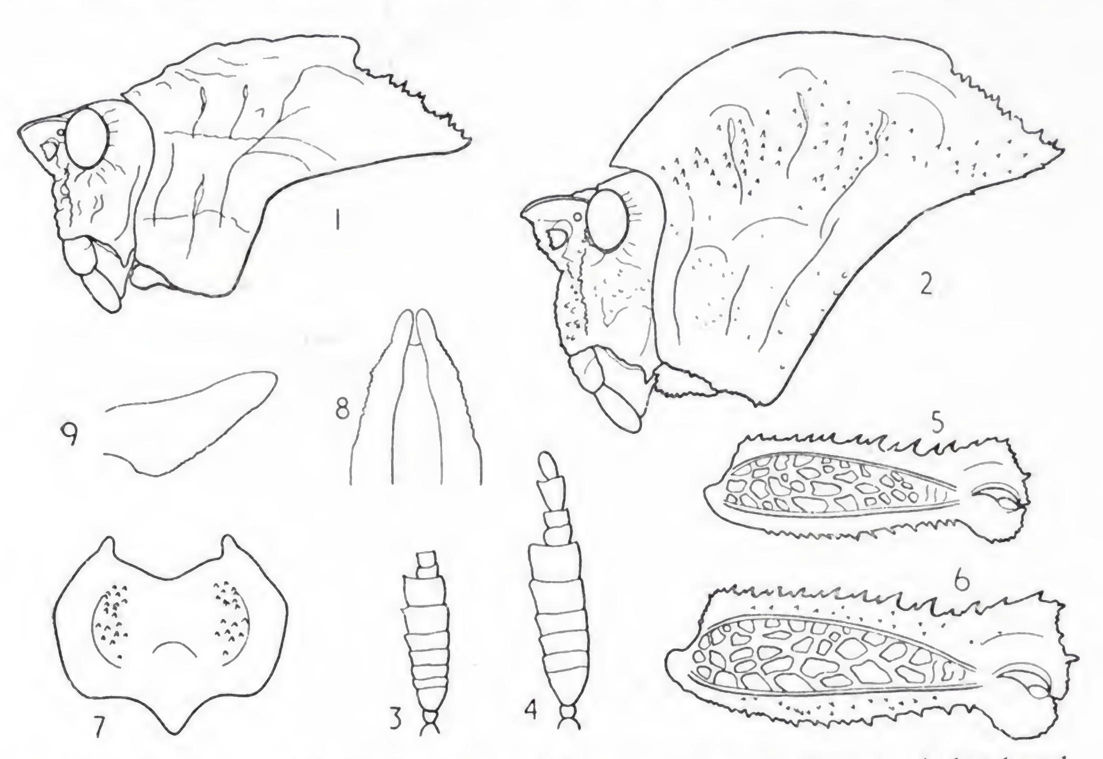


Fig. 17.—*Xiphoceriana arabica* (Uv.). Male type, female allotype. 1, head and pronotum, male. 2, ditto, female. 3, antenna, male (broken). 4, ditto, female. 5, hind femur, male. 6, ditto, female. 7, epiphallus. 8, apical valves of penis, from above. 9, ditto, lateral view.

basal part, first and second basal segments transverse, two apical ones elongated. Fastigium of vertex above granulose, slightly concave, with parabolic apex; in profile acutangulate, strongly projecting forwards. Frons, in profile granulose. Pronotum with high arcuate crest, in prozona undulated, step-like merging with metazona, which is strongly and deeply serrated. Prosternal tubercle cuneiform, with

toothed apex, its posterior surface covered with small teeth and tubercles. Margins of hind femur well widened, upper margin with longer, lower with shorter acute teeth. First and second abdominal tergites with short, acute apical teeth.

Apical valves of penis comparatively short, narrowing towards apex, with finely serrated sides. Epiphallus with short angulate projection on the middle of posterior margin.

General colouration brown. Remigium of wing infumate; vannus light brownish infumate. Hind tibia of the same colouration as whole body.

♀. Larger than male, much more robust and more granulose and rugulose. Antenna as in the male, but more widened in basal part. Fastigium of vertex wider than its length, above slightly concave and granulose, with broadly parabolic apex; in profile, acutangulate, strongly projecting forwards. Crest of pronotum very high and strongly compressed, arcuate, in prozona, step-like or arcuate merging with metazona, which is strongly serrated. Margins of hind femur well widened, upper margin with large acute teeth, lower margin with small sparse acute teeth, external surface of margins with small teeth. All abdominal tergites with small acute apical teeth.

General colouration grey or brownish with indistinct whitish and brown spots. Hind tibia of the same colour as whole body.

Length of body ♂ 50, ♀ 56-63; pronotum ♂ 17, ♀ 22-24; elytron ♂ 53; hind femur ♂ 15, ♂ 20-22 mm.

Specimens examined:

Aden Protectorales: Ktubu, 1 ♂ type. Dhala, 1 ♀ (R. C. M. Darling). Hadhramaut, West Road, 1 ♀ (G. Popov). Lauda, 100 mls. N. of Aden, 1 ♀ (E. B. G. Betta).

The species superficially resembles *X. cristata* Sauss., but the apical valves of pennis and epiphallus are quite different, suggesting that the two species are not closely related to one another.

Hoplolopha Stål 1876.

Generic type: *Porthetis serratus* Stål 1875.

Of medium size, strongly rugulose and tuberculate. Antenna compressed, slightly widened in basal part and gradually tapering towards

apex, without division on basal, medial and apical parts. Fastigium of vertex and upper part of frons strongly projecting forwards, forming angle with lower part of frons. Pronotum with high, strongly compressed, crest which is serrated or spined; three very deep fenestrae present. Prosternal tubercle cuneiform, with bifurcate or bilobate apex, with tubercles on posterior surface. Abdominal tergites in female with strong, acute apical teeth. Hind femur narrow, with narrow margins, upper one with teeth or serrated, lower serrated or with small teeth. Male fully winged or with shortened elytra and wings, female apterous. Male subgenital plate conical, with acute apex. Cercus simple, conical, slightly compressed, with slightly upcurved apical half. Female subgenital plate with rounded, almost truncate, apex. Valves of ovipositor short, slightly curved. Supra-anal plate, in both sexes simple, triangular, with longitudinal sulcus in the middle.

Apical valves of penis wide, narrowing towards apex, with margins sometimes slightly serrated. Epiphallus with strongly projecting posterior margin.

General pattern: on lateral side of pronotum there is a narrow whitish stripe, which continues on mesa- and metanotum and all abdominal tergites.

The genus differs from other genera of the group by the shape of antenna, which is not divided on the basal, medial and apical parts, by the shape and strong serration of pronotum and by the structure of the apical valves of penis and of epiphallus.

The species of this genus are very variable in all essential characters, and the genus as a whole is not sufficiently studied owing to lack of material. It is possible therefore, that *horrida* and *reflexa*, *serrata* and *karasensis* are only local races of the same species.

Key to species.

Males.

1 (10). Macropterous, elytron much exceeds end of abdomen.

2 (3). Anterior edge of pronotal crest, in profile, raising almost vertically; upper margin gradually sloping backwards (Fig. 22). ...... **asina** (Sauss.).

3 (2). Anterior end of pronotum, in profile, angularly produced forwards; upper margin arcuate (Figs. 18-21).

4 (7). Crest of pronotum in prozona undulated, in metazona serrated (Figs. 20, 21).

5 (6). Crest of pronotum comparatively low. Margins of hind femur with small teeth (Fig. 20). .... **horrida** (Burm.).

6 (5). Crest of pronotum comparatively high. Margins of hind femur with large teeth (Fig. 21). .... **reflexa** (Walk.).

7 (4). Crest of pronotum serrated on whole length, in prozona with obtuse, in metazona whit acute teeth (Figs. 18, 19).

8 (9). Fastigium of vertex above smooth, with apex angulate, fastigial furrow extends to occiput; occipital carinula absent. Pronotal crest higher and more deeply serrated (Fig. 18). .... **serrata** (Stål).

9 (8). Fastigium of vertex above granulose, with apex parabolic; fastigial furrow noticeable only in apical third of vertex, occipital carinula present. Pronotal crest lower and less deeply serrated (Fig. 19). .... **karasensis** Sjöst.

10 (1). Brachypterous, elytron not reaching seventh abdominal tergite (Figs. 23, 24).

11 (12). Crest of pronotum deeply excised in the middle and strongly serrated in prozona and metazona (Fig. 24). .... **vansoni** sp. n.

12 (11). Crest of pronotum not excised, in prozona undulated, in metazona strongly serrated (Fig. 23). .... **pinheyi** sp. n.

Females.

1 (2). Anterior edge of pronotal crest, in profile, raising almost vertically, whole crest high (Fig. 22). .... **asina** (Sauss.).

2 (1). Anterior end of pronotal crest, in profile, angularly produced forwards (Figs. 18-21, 23, 24).

3 (12). Crest of pronotum, arcuate, sometimes with slight depression in the middle (Figs. 18-21, 23).

4 (7). Crest of pronotum serrated on whole length, sometimes with the exception of the very anterior part (Figs. 18, 19).

5 (6). Apex of fastigium of vertex in profile rounded. Teeth on margins of hind femur small (Fig. 18). .... **serrata** (Stål).

6 (5). Apex of fastigium of vertex in profile with excision. Teeth on the margins of hind femur large (Fig. 19). .... **karasensis** (Sjöst.).

7 (4). Crest of pronotum undulated in prozona and serrated in metazona (Figs. 20, 21, 23).

8 (9). Fastigium of vertex from above broadly rounded, almost truncate. .... **horrida** (Burm.).

9 (8). Fastigium of vertex from above angular.

10 (11). Fastigium of vertex, in profile, with a deep excision at ocellus (Fig. 21). .... **reflexa** (Walk.).

11 (10). Fastigium of vertex, in profile, with a shallow obtusangulate excision (Fig. 23). .... **pinheyi** sp. n.

12 (3). Crest of pronotum deeply excised in the middle (Fig. 24). .... **vansoni** sp. n.

Hoplolopha serrata (Stål 1875) (Fig. 18).

1875. *Porthctis serratus* Stål, Svensk. Vet. Akad. Handl., 4 (5) : 27. Type ♂. Damara, S.W. Africa. Stockholm Mus.

♂ (Type). Antenna narrow. Fastigium of vertex from above obtusangulate, slightly concave, smooth, with moderately sharp lateral carinulae; fastigial furrow extends on to occiput; in profile fastigium rounded. Pronotal crest comparatively low, broadly arcuate, acutely and deeply serrated, its anterior end, in profile, acutangulate. Elytron exceeds end of abdomen by less than length of pronotum. Upper margin of hind femur with small, acute teeth, lower margin with small obtuse teeth. First and second abdominal tergites each with small acute tooth.

Apical valves of penis gradually narrowing towards apex. Epiphallus comparatively short.

General colouration greyish, with whitish stripes and spots. First and second basal segments of antenna pale yellowish. Internal side of hind tibia bluish, in apical part red; tarsus red.

♀. Antenna narrow. Fastigium of vertex, from above acutangulate, concave, smooth, with moderately sharp lateral carinulae; fastigial furrow extends to occiput; in profile, fastigium rounded. Pronotal crest comparatively low, broadly arcuate, acutely and deeply serrated, its anterior margin, in profile, acutangulate. Abdominal tergites with small acute apical teeth. Upper margin of hind femur with small acute, lower margin with small obtuse teeth.

General colouration greyish, with whitish stripes and spots. First two basal segments of antenna pale yellowish. Internal side of hind tibia light bluish-grey, apical part red, tarsus red.

Length of body ♂ 34, ♀ 40; pronotum ♂ 11, ♀ 10.4; elytron ♂ 26; hind femur ♂ 14.6, ♀ 14.5 mm.

Body size varies in male 33-37, in female 40-41 mm. Serration of hind femur is sometimes deeper than in the type, with the lower margin more deeply serrated.

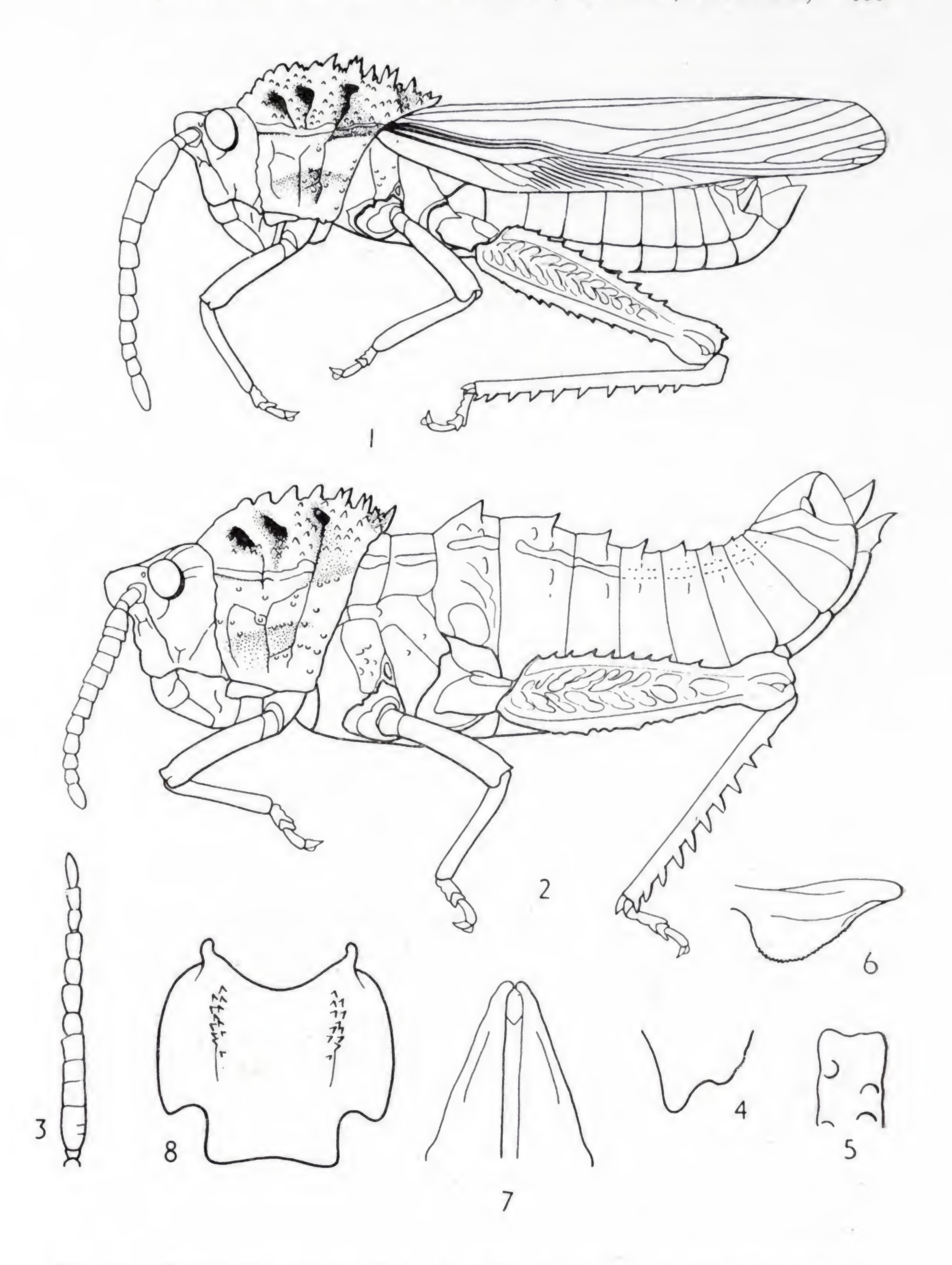


Fig. 18.—*Hoplolopha serrata* (St.). 1, male. 2, female. 3, left antenna, male. 4, prosternal tubercle, male, lateral view. 5, ditto, posterior view. 6, apical valve of penis, lateral view. 7, apical valves of penis, from above. 8, epiphallus.

Specimens examined:

S.W. Africa: "Damara" 1 ♂ (Type). Aroab, Karasburg, 2 ♂. Namaqualand, 1 ♀.

Bechuanaland: Ghanzi, Mongalatsila, 1 ♀. Ghanzi, 2 ♂.

Hoplolopha karasensis Sjöstedt 1932 (Fig. 19).

1932. *Hololopha karasensis* Sjöstedt, Soc. Ent. France. Livre Cent.: 545, pl. 29, f. 1a, 1b, 2a, 2b. Type ♂. Klein Karas, S.W. Africa. Stockholm Mus.

♂ (Type). Antenna narrow. Fastigium of vertex, from above,

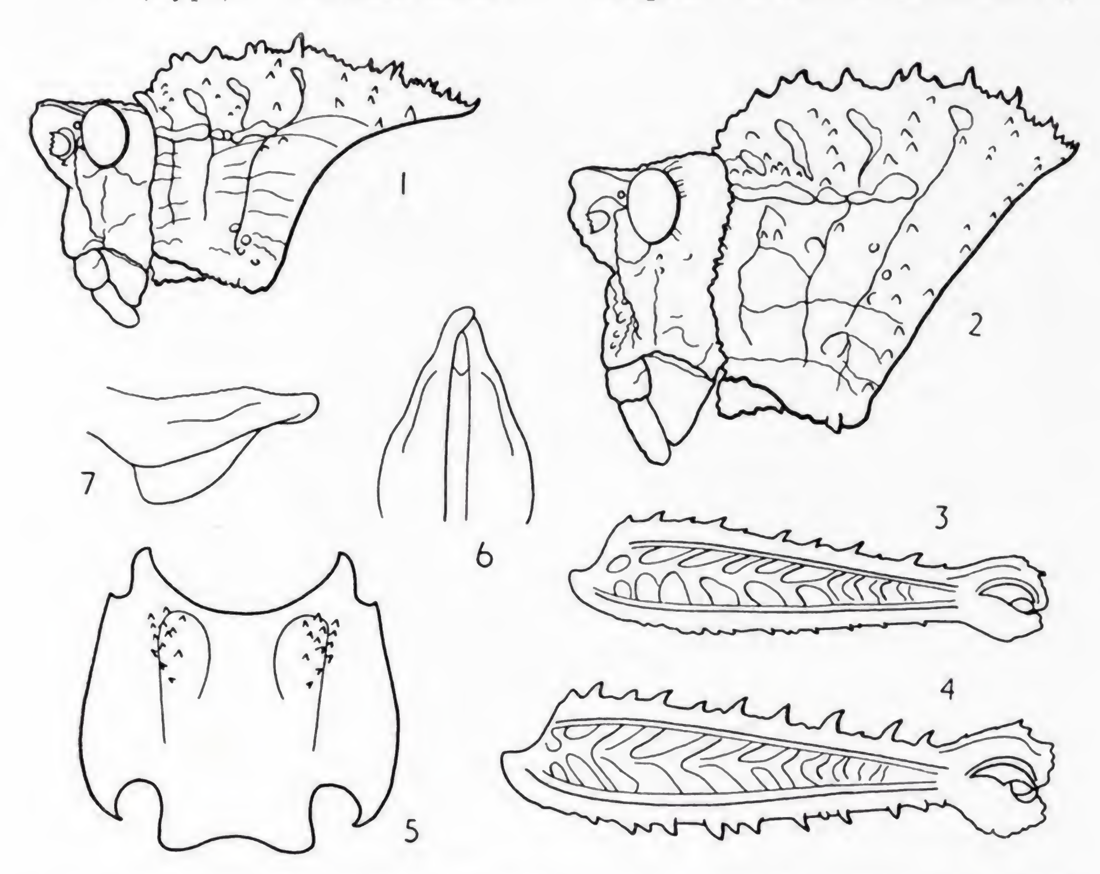


Fig. 19.—*Hoplolopha karasensis* Sjös. Male type, female allotype. 1, head and pronotum, male. 2, ditto, female. 3, hind femur, male. 4, ditto, female. 5, epiphallus. 6, apical valves of penis, from above. 7, ditto, lateral view. (Figs. 5, 6, 7, drawn not from type.)

parabolic, slightly concave, granulose, with moderately sharp lateral carinulae; fastigial furrow not exceeding one third of vertex; occipital

carinula present; in profile, fastigium with slight excision under the apex. Pronotal crest low, broadly arcuare, moderately deeply serrated on whole length, its anterior margin in profile acutangulate. Elytron exceeds end of abdomen by less than length of pronotum. Upper margin of hind femur with moderately large acute teeth; lower margin with small obtuse teeth. First abdominal tergite with large acute teeth, second with tubercle.

Apical valves of penis gradually narrowing towards apex. Epiphallus comparatively short and wide.

General colouration greyish-brown. Two first basal segments of antenna cinnabar-red. Internal side of hind tibia in basal half dark blue, in apical half red.

♀. Antenna narrow. Fastigium of vertex, from above parabolic, slightly concave, granulose, with moderately sharp lateral carinulae; fastigial furrow not exceeding one third of vertex; in profile, fastigium with slight excision at apex; occipital carinula present. Pronotal crest comparatively low, broadly arcuate, moderately deeply serrated on whole length, its anterior margin, in profile acutangulate. Upper margin of hind femur with large, acute, comparatively wide teeth; lower margin with smaller acute teeth. All abdominal tergites with small acute apical teeth.

General colouration greyish-brown. First two basal segments of antenna, above, cinnabar-red, lateral edges of fastigium of vertex reddish. Internal side of hind tibia in basal two thirds blue, in apical third red; tarsus red.

Length of body ♂ 37, ♀ 47; pronotum ♂ 13.6, ♀ 13.5; elytron ♂ 34; hind femur ♂ 17.8, ♀ 20 mm.

Specimens examined:

S.W. Africa: Klein Karas, 1 ♂ (Type). 1 ♀ (Allotype). Aroab, Karasburg, 4 ♂.

Hoplolopha horrida (Burmeister 1838) (Fig. 20).

1838. *Pamphagus horridus* Burmeister, Handb. d. Ent.: 617. Types ♂ ♀ lost. «Vorgebirge der guten Hoffnung». Neotype ♂. Middlebur, Cape Prov. British Mus. (Nat. Hist.)

1887. *Xiphocera dromadaria* Saussure, Spic. Ent. Genav.: 35, 64, pl. 3, f. 14, 15. Type ♂. Prom. B. Sp. and Transvaal. Geneva Mus.

The type of *P. horridus* Burm. is lost, but the species is common in Cape Province and fairly well represented in different museums. A large series of this species in the British Museum (Natural History) permits the selection of the neotype.

X. dromadaria Sauss., which was described on the basis of male and female and already was synonymised with *P. horridus* Burm. by Kirby 1910, is represented in Geneva Museum by male and female. Here I am designating the male as the type, the female being paratype. They are identical with *H. horrida* Burm.

♂ *(Neotype)*. Antenna in basal part moderately widened. Fastigium of vertex, from above, with rounded apex, slightly concave; lateral carinulae moderately high; fastigial furrow reaching middle of fastigium, and merging posteriorly with median carinula. Crest of pronotum comparatively low, its anterior end, in profile, acutangulate; upper margin broadly arcuate, in prozona undulated, in metazona serrated. Elytron comparatively narrow, exceeding end of abdomen by less than length of pronotum. Upper margin of hind femur with comparatively small acute, lower margin with small obtuse, teeth. First and second abdominal tergites each with small acute apical tooth, third tergite with tooth-like tubercle. Apical valves of penis gradually narrowing towards apex. Epiphallus elongated, with posterior margin projecting comparatively far.

General colouration dark grey. First and second basal antennal segments dirty ochraceous. Internal side of hind tibia in basal two-thirds dark blue, in apical third red; tarsus red.

♀. Antenna in basal part moderately widened. Fastigium of vertex, above, with rounded apex, slightly concave; lateral carinulae high; fastigial furrow reaching middle of fastigium and posteriorly merging with median carinula. Crest of pronotum high, its anterior end, in profile, angulate, upper margin broadly arcuate, sometimes slightly depressed in the middle, in prozona undulated, in metazona

serrated. Upper margin of hind femur with large acute, lower with obtuse, teeth. All abdominal segments with large acute apical teeth.

General colouration grey, brownish, sometimes greenish. First and second basal antennal segments dirty-ochraceous. Internal side of hind tibia in basal two thirds blue, in apical third red.

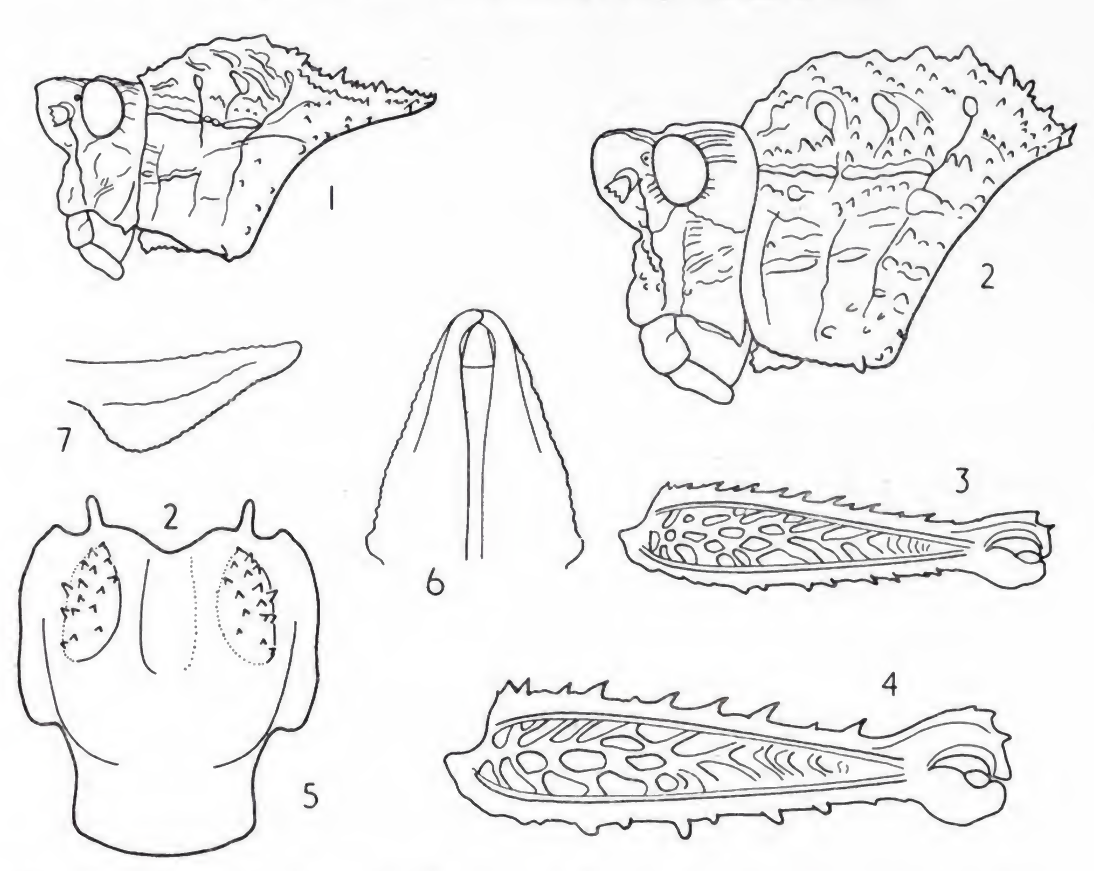


Fig. 20.—*Hoplolopha horrida* (Burm.). 1, head and pronotum, male. 2, ditto, female. 3, hind femur, male. 4, ditto, female. 5, epiphallus. 6, apical valves of penis, from above. 7, ditto, lateral view.

Length of body ♂ 30, ♀ 38.5; pronotum ♂ 11.7, ♀ 12.3; ♂ elytron 28.6; hind femur ♂ 16, ♀ 18.7 mm.

Variability: Body size, male 29-35, female 35-50 mm. Height of pronotum varies slightly in both sexes, as well as its serration, which is sometimes more, sometimes less deep and acute. The serration of the margins of hind femur slightly varies in acuteness and size of teeth in both sexes.

Specimens examined:

Cape Prov.: Middleburg, 27 ♂, 7 ♀. Brak Kloof, 1 ♀.

Hoplolopha reflexa (Walker 1870) (Fig. 21).

1870. *Pamphagus reflexus* Walker, Cat. Derm. Salt. Brit. Mus. 3: 535. Type ♂. South Africa. British Mus. (Nat. Hist.)
1873. *Porthetis lineatus* Stål, Rec. Orth.: 24. Type ♂. Locality unknown. Stockholm Mus. *(Syn. n.)*.
1887. *Xiphocera fissa* Saussure, Spic. Ent. Genav.: 35, 66. Type ♂. Africa meridionalis: Lessoutes. Geneva Mus. *(Syn. n.)*
1887. *Xiphocera camelina* Saussure, Spic. Ent. Genav.: 34, 35, 67, f. 18, 19. Type ♀. Prom. B. Sp. and Transvaal. Geneva Mus.

I have compared the types of *P. reflexus* Walk., *P. lineatus* St. and *X. fissa* Sauss. and found them conspecific.

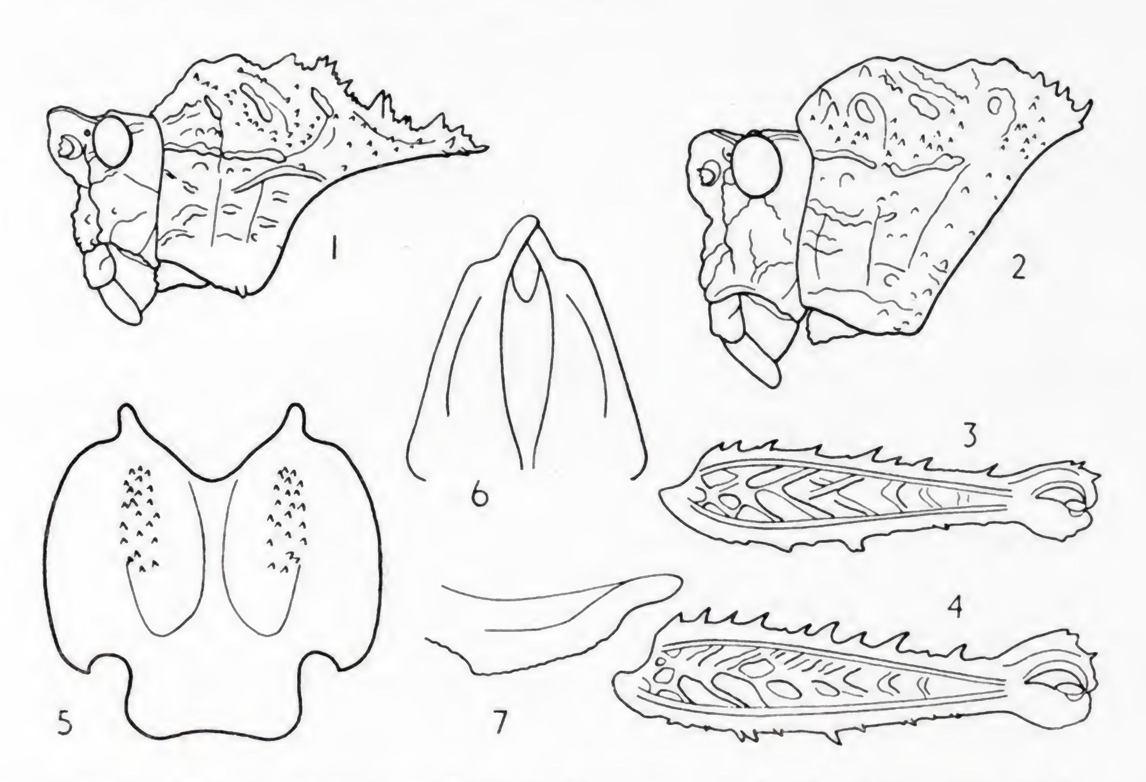


Fig. 21.—*Hoplolopha reflexa* (Walk.). Male type. 1, head and pronotum, male. 2, ditto, female. 3, hind femur, male. 4, ditto, female. 5, epiphallus. 6, apical valves of penis, from above. 7, ditto, lateral view.

When describing *X. camelina,* male and female, Saussure regarded it as a synonym of *P. reflexus* Walk., but did not explain why he described it under the new name. I have seen Saussure's female (male is lost) and I am designating it here as the type. It is conspecific with *P. reflexus* Walk. It differs only by slightly deeper depression

of the crest of pronotum. This difference is not exceeding individual variability.

In the British Museum (Natural History) there are a male and a female of *P. reflexus,* both with the locality labels "S. Africa" and both with the labels "Type". They are probably male and female of the same species, but Walker has described and mentioned only the male. I am redescribing the male, which I designate as the type and this particular female.

♂ (Type). Antenna narrow. Fastigium of vertex, above with rounded apex, slightly concave, smooth; lateral carinulae moderately high, fastigial furrow passing throughout whole fastigium and merging with low median carinulae; in profile, fastigium long, with slightly excised apex. Crest of pronotum high, arcuate, in prozona undulated, in metazona deeply serrated; its anterior end, in profile, angulate. Elytron exceeds end of abdomen by less than the length of pronotum. Upper margin of hind femur with large acute teeth; lower margin with small obtuse teeth and one large tooth in the middle.

Apical valves of penis gradually narrowing towards apex, with apex itself strongly narrowed. Epiphallus as long as wide.

General colouration dark grey. Internal side of hind tibia in basal two thirds bluish-grey, in apical third red; tarsus red.

♀. Antenna narrow. Fastigium of vertex, from above, angulate, with lateral projection on sides, slightly concave; lateral carinulae moderately high; fastigial furrow scarcely reaching middle of fastigium; median carinula weak. Crest of pronotum high, arcuate, slightly depressed in middle, in prozona undulated, in metazona serrated, its anterior end, in profile, angulate. Upper margin of hind femur with large acute, lower margin with small acute, teeth.

General colouration grey, with whitish stripes and spots. Internal side of hind tibia in basal two thirds bluilsh-grey, in apical third reddish.

Length of body ♂ 32, ♀ 37.3; pronotum ♂ 12.3, ♀ 10.8; ♂ elytron 29; hind femur ♂ 16, ♀ 17 mm.

Specimens examined:

S. Africa: "S. Africa", 1 ♂ (Type of *P. reflexus*), 1 ♀, locality ? 1 ♂ (Type of *P. lineatus*).

Orange Free State: Bloemfontein, 2 ♂.
Cape Province: Willowmore, 2 ♂. 1 ♀.
Transvaal: Lessoutos, 1 ♂ (Type of *X. fissa*).

Hoplolopha asina (Saussure 1887) (Fig. 22).

1887. *Xiphocera asina* Saussure, Spic. Ent. Genav.: 35, 68, pl. 3, f. 20, 21, 21a. Type ♂. «Africa meridionalis.» Vienna Mus.

The species was described from a male and a female. Here the male is designated as the type.

♂ (Type). Antenna comparatively wide in basal part. Fastigium of vertex from above, with rounded apex, and lateral margins slightly projecting, concave, with crescent shaped transverse depression in front of eyes; lateral carinulae moderately sharp; fastigial furrow short, reaching the depression; occipital carinula present in profile fastigium long, angulate. Crest of pronotum high, thin, its anterior margin, in profile, rising high above head, almost straight, slightly oblique; upper margin gradually sloping backwards, in prozona irregularly undulated, in metazona serrated with strong acute teeth. Elytron exceeds end of abdomen by less than the length of pronotum. Upper margin of hind femur with moderately large acute teeth, lower margin with small obtuse teeth. First abdominal segment with small acute tooth, second and third each with small obtuse tubercle-like tooth.

Apical valves of penis gradually narrowing towards, and incurved at apex. Epiphallus elongated.

General colouration brownish grey. First and second basal antennal segments red above. Internal side of hind tibia, in basal half dark blue, in apical red; tarsus red.

♀. Antenna in basal part comparatively wide. Fastigium of vertex from above, with rounded almost truncate apex and angulate lateral projections, strongly concave; lateral carinulae high and sharp; fastigial furrow short, posteriorly merging into carinula which is continuous with occipital carinula; in profile fastigium long, angulate. Crest of pronotum high, its anterior margin, in profile, slightly obliquely rising above head, upper margin arcuate, with shallow excision in the middle; serrated on whole length, in prozona with obtuse, in metazona with acute teeth. All abdominal tergites with acute apical teeth. Upper margin of hind femur with alternate large and small

acute teeth, lower margin with smaller acute teeth and a large double tooth in the middle.

General colouration brownish-grey. First and second basal antennal segments above red. Internal side of hind tibia in basal half greyish-blue, in apical half reddish.

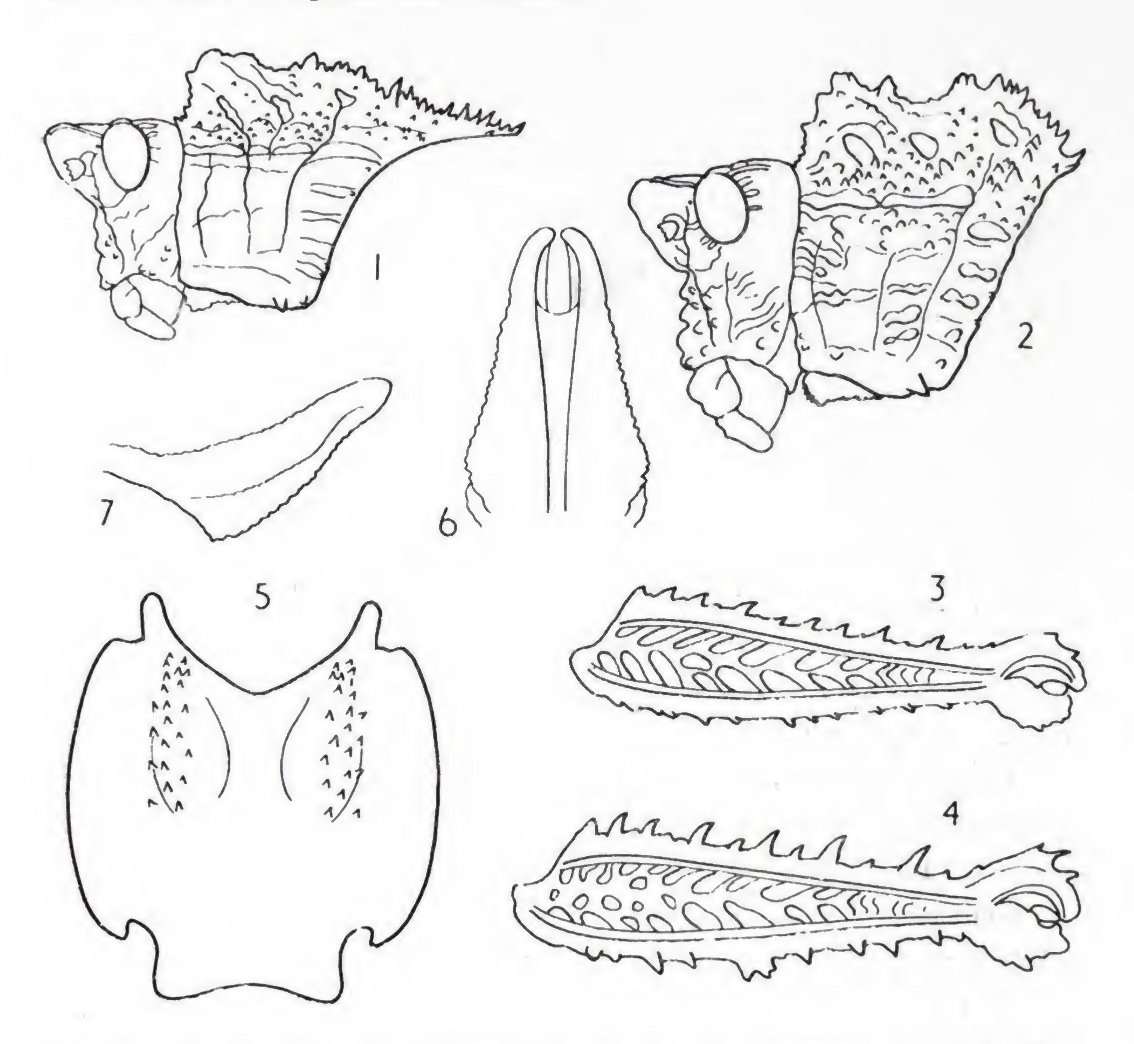


Fig. 22.—*Hoplolopha asina* (Sauss.). 1, head and pronotum, male. 2, ditto, female. 3, hind femur, male. 4, ditto, female. 5, epiphallus. 6, apical valves of penis, from above. 7, ditto, lateral view. (Drawings from the specimens compared with the type and allotype.)

Length of body ♂ 35, ♀ 52; pronotum ♂ 13, ♀ 10.7; ♂ elytron 37; hind femur ♂ 18, ♀ 18.5 mm.

Body size varies from ♂ 30-36, ♀ 50-53 mm. The depth of excision of pronotal crest in the females and its serration in both sexes varies in acuteness of teeth. Teeth on the margins of hind femur vary in size.

*

Specimens examined:

Cape Prov.: "Africa meridionalis", 1 ♂ (Type), 1 ♀. De Aar, 3 ♂, 3 ♀.

Hoplolopha pinheyi sp. n. (Fig. 23).

♂ (Type). Small, strongly sculptured. Antenna comparatively very narrow, with strongly serrated external margin. Fastigium of vertex, from above, angulate, strongly concave, smooth; lateral carinulae high; fastigial furrow reaching occiput; in profile, fastigium is short, ascending, with rounded apex. Pronotum, in relation to body, very long, with high crest, which is excurved and undulated in prozona and strongly serrated, with acute teeth in metazona; its anterior end is angulate. Prosternal tubercle broad, deeply bilobate, with small tubercles on posterior surface. Elytron strongly shortened, reaching eighth adbominal tergite, with angulate apex; stridulatory veinlets strong and sharp. Wing vestigial. Upper margin of hind femur with large, lower margin with small, acute teeth and large double tooth in the middle. All abdominal tergites each with acute apical tooth. Subgenital plate conical with very acute apex.

Apical valves of penis wide, gradually narrowing towards apex, external lateral margin in the middle with excision, apex strongly upcurved. Epiphallus elongated, with strongly projecting posterior part.

General colouration brownish-grey with greenish tinge and with whitish spots and stripes. Internal side of hind tibia greenish.

♀ (Paratype). Of medium size, strongly sculptured. Antenna comparatively narrow, with external margin strongly serrated. Fastigium of vertex from above angulate, strongly concave, smooth; lateral carinulae high; fastigial furrow reaching occiput; in profile, fastigium short, ascending, with rounded apex. Pronotum comparatively shorter than in male, with high crest, which in prozona is excurved and slightly undulated, in metazona deeply serrated; its anterior end angulate. Prosternal tubercle as in the male. Upper margin of hind femur with large acute teeth; lower margin undulated, with few small obtuse teeth and large one in the middle. All abdominal tergites each with a large, acute apical tooth. Valves of ovipositor moderately slender.

Colouration and pattern as in the male.

Length ob body ♂ 24 (body upcurved), ♀ 41-42.5; pronotum ♂ 14.3, ♀ 14; elytron ♂ 10.4; hind femur ♂ 13.8, ♀ 16-17 mm.

S. Rhodesia: Turk Mine, April 1957, 1 ♂ (Type), 2 ♀ (Paratypes). Collected by Mr. E. C. G. Pinhey in whose honour it is

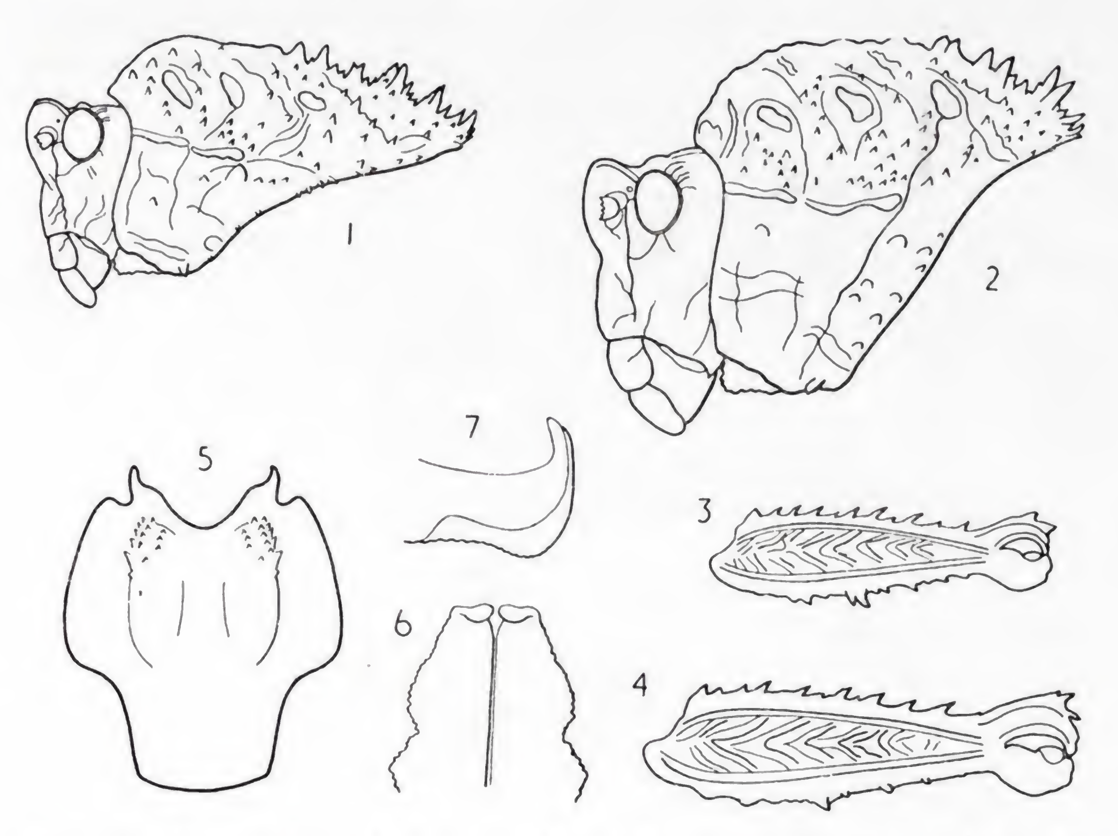


Fig. 23.—*Hoplolopha pinheyi* sp. n. Male type, female allotype. 1, head and pronotum, male. 2, ditto, female. 3, hind femur, male. 4, ditto, female. 5, epiphallus. 6, apical valves of penis, from above. 7, ditto, lateral view.

named. Type and one paratype in the British Museum (Natural History). One paratype in the National Museum of S. Rhodesia.

This remarkable short-winged species differs strongly from all other species of the genus by the shape of pronotum, fastigium of vertex and shortened elytra and wings. The last character *H. pinheyi* shares with the next species, from which it differs strongly by pronotum and fastigium of vertex.

Hoplolopha vansoni sp. n. (Fig. 24).

♂ (Type). Of medium size, strongly sculptured. Antenna comparatively narrow. Fastigium of vertex, above with broadly rounded apex, and projecting lateral margins, concave, with smooth surface; lateral carinulae moderately high, fastigial furrow reaching occiput; in profile, fastigium strongly projecting, angulate, at apex slightly

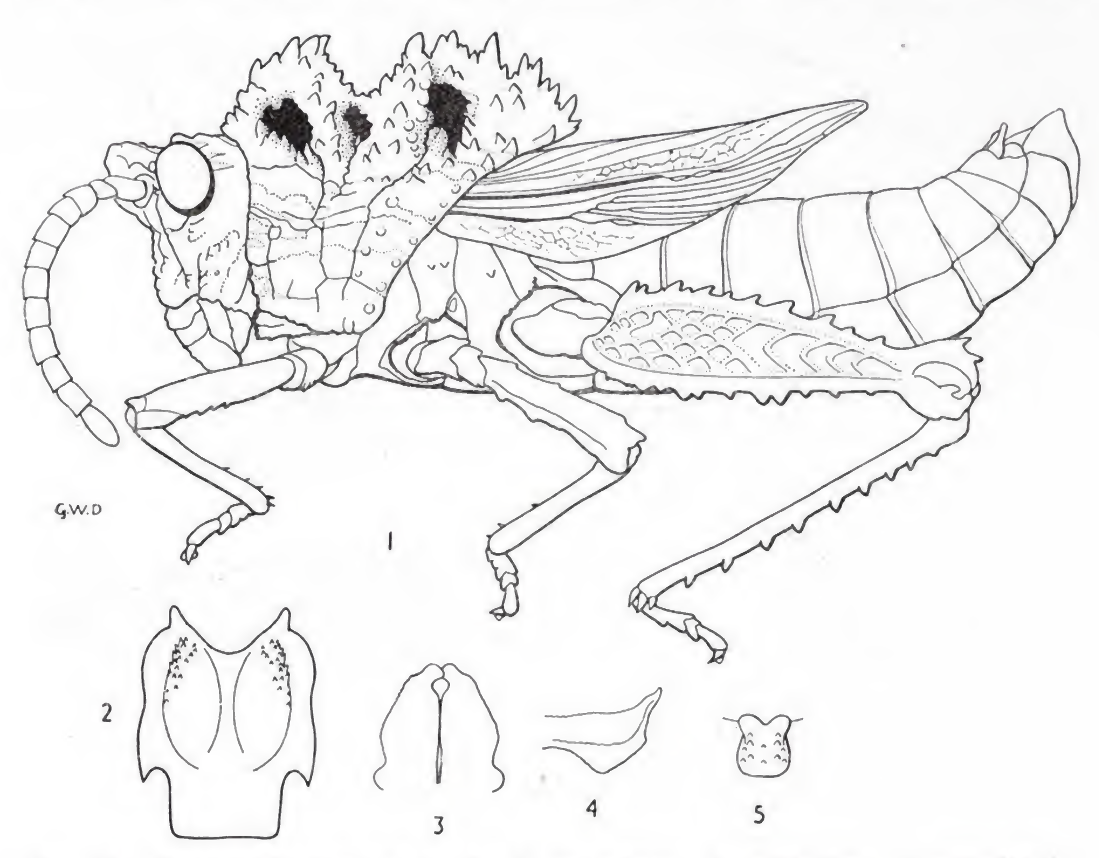


Fig. 24.—*Hoplolopha vansoni* sp. n. 1, male type. 2, epiphallus. 3, apical valves of penis, from above. 4, ditto, in profile. 5, prosternal tubercle.

excised. Pronotum long, whit very high crest, which is deeply excised in the middle and strongly serrated on whole length, its anterior end angulate, three fenestrae very large and deep. Prosternal tubercle shallowly bilobate. Elytron strongly shortened, reaching seventh abdominal tergite, with acute apex; Stridulatory veins strong and sharp. Wing slightly shorter than elytron. Anterior and middle femora with small tubercles on the lower side. Both margins of hind femur with large acute teeth. First, second and third abdominal tergites with apical teeth.

Apical valves of penis wide, gradually narrowing towards apex, external lateral margin in the middle with excision, apex moderately upcurved. Epiphallus elongated, with large, strongly projecting posterior part.

General colouration brownish; with indefinite brown and whitish spots and stripes.

♀ (Paratype). Of medium size, strongly sculptured. Antenna comparatively narrow. Fastigium of vertex above, with almost truncate apex, with lateral margins projecting, concave, with smooth surface; lateral carinulae moderately high; fastigial furrow reaching occiput; in profile, fastigium strongly projecting, angulate, at apex slightly excised. Pronotum comparatively long, with very high crest, which is deeply excised in the middle and strongly serrated on whole length, its anterior end angulate. Prosternal tubercle shallowly bilobate. Anterior and middle femora with small tubercles on lower side; both margins of hind femur with large acute teeth. First abdominal tergite with large, all others with small, acute apical teeth. Valves of ovipositor short, robust, little curved.

General colouration brown. Internal side of hind femur slightly olive-green.

Length of body ♂ 26-30 (Type), ♀ 36-45; pronotum ♂ 10.5-11.5, ♀ 13.2-15; elytron ♂ 13.5-14.2; hind femur ♂ 11.7-12.4, ♀ 15.7-17.8 mm.

Specimens examined:

Tranvaal: Chapudi, 8.4.1950, 1 ♂ (Type), 1 ♀ (G. Van Son). Bandolier Kop, 27.2.1926, 1 ♂, 2 ♀ (J. S. Darling).

Type and two female paratypes in the Transvaal Museum. One male and one female paratypes in the British Museum (Natural History).

This is the second short-winged species of the genus. It differs strongly from *H. pinheyi* by the shape of pronotum and fastigium of vertex.

Porthetis Serville 1831.

Generic type: *Acridium dentatum* De Geer 1773.

Very large, with strongly sculptured, and toothed integument; female much more robust than male.

Antenna compressed and slightly widened in basal part, not divided on basal, medial parts and flagellum. Fastigium of vertex above wider than its length; in profile, not projecting forwards; frons excised at ocellus. Pronotum with high, strongly compressed crest, with three deep fenestrae, in metazona roughly serrated. Prosternal tubercle cuneiform, deeply bifurcate, with tubercles on posterior surface. Margins of hind femur not expanded at all, upper margin with very long sparse teeth, lower one with teeth and projections. Male fully winged; elytron far exceeds end of abdomen; anterior margin excurved, apical margin obliquely truncate. Female apterous. Male subgenital plate conical; cercus compressed, conical, with apical part slightly upcurved; female subgenital plate with excurved apex; valves of ovipositor short, slightly curved. Supra-anal plate, in both sexes, with angulate apex and deep longitudinal sulcus in middle.

Apical valves of penis narrowing towards apex, with undulated sides. Epiphallus with very small and numerous teeth, its posterior margin slightly projecting.

The genus is near to *Hoplolopha* but differs from it by the wide fastigium of vertex and not toothed crest of pronotum in both sexes.

Porthetis carinata (Linne 1758) (Fig. 25).

1758. *Gryllus Bulla carinatus* Linne, Syst. Nat., 10 ed.: 427. Type «In Indiis». Type lost. Neotype ♂. Majesfontein, Cape Province. British Museum (Natural History).

1773. *Acridium dentatum* De Geer, Mem. serv. hist. Insect., 3: 496, pl. 42, f. 3. Type ♂. S. Africa (lost).

1787. *Gryllus serripes* Fabricius, Mant. Insect., 1: 236. Type lost.

1787. *Gryllus canescens* Thunberg, Mus. Nat. Acad. Upsal.: 59. Type lost.

1790. *Gryllus (Locusta) rugosus* Gmelin, Syst. Nat., 13 ed.: 2087. Type lost.

1887. *Xiphocera (Porthetis) consobrina* Saussure, Spic. Ent. Genav.: 33. 62. Types ♂ ♀ (lost). Transvaal.

The type of *Gryllus Bulla carinatus* L. and the types of all synonyms are lost. The neotype is chosen as average from the small series.

♂ (Neotype). Large, with very strongly granulose and rugulose integument. Fastigium of vertex above wider than its length, slightly concave and granulose, its apex obtusangulate, lateral carinulae of posterior part converging behind; in profile, fastigium not projecting.

Frons, in profile, narrowly and deeply excised below antennae. Pronotum long, with longitudinal wrinkles, crest high, rather thick, with arcuate and irregularly dented profile; fenestrae deep, with convexi-

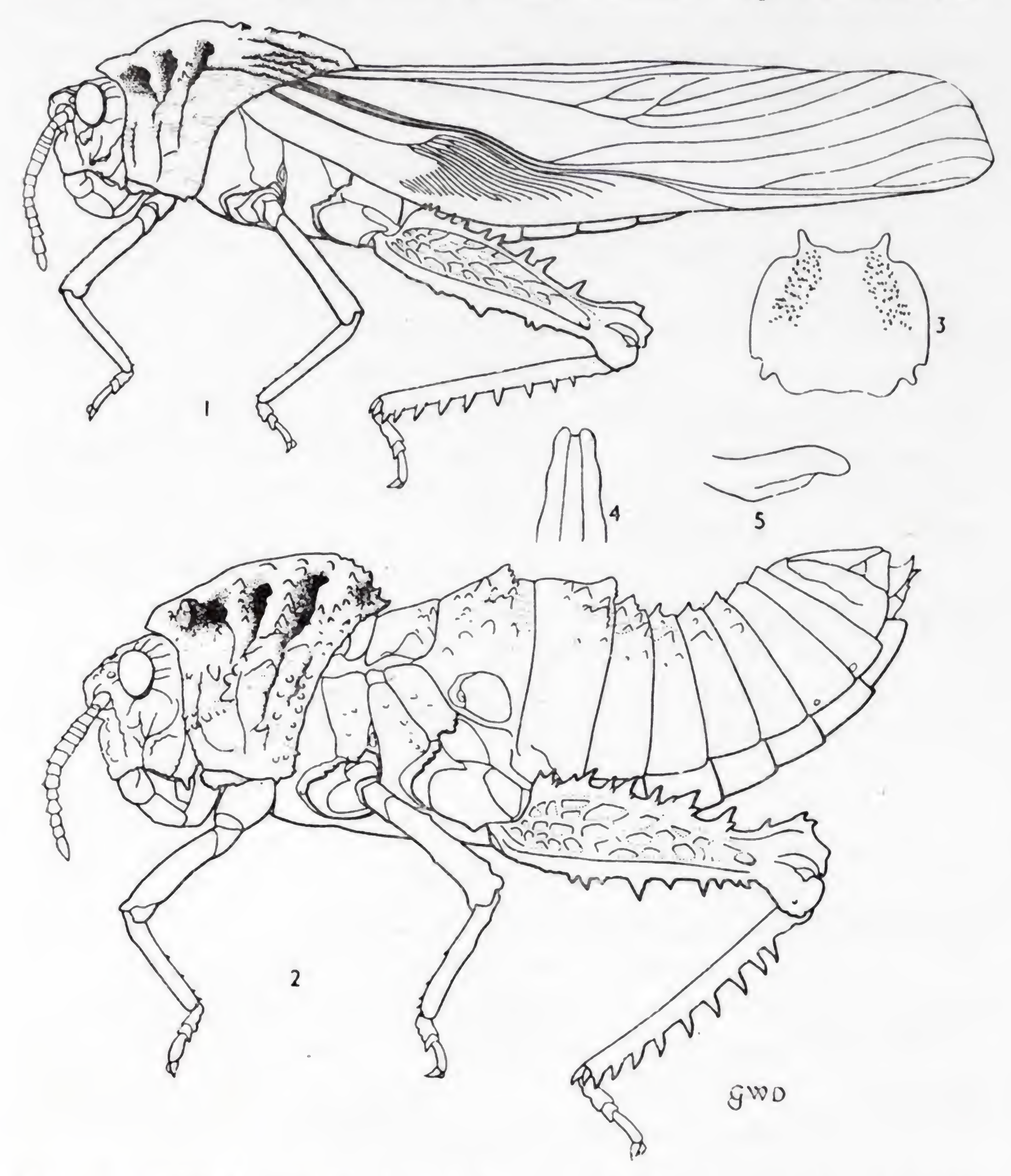


Fig. 25.—*Porthetis carinata* (L.). 1, male. 2, female. 3, epiphallus. 4, apical valves of penis, from above. 5, ditto, in profile.

ties between them. Upper margin of hind femur with extremely large acute teeth, lower margin with smaller subacute teeth. Elytron exceeds end of abdomen by more than the length of pronotum. First and second abdominal tergites with small obtuse apical teeth.

Apical valves of penis gradually narrowing towards apex, from above with undulated sides. Epiphallus with very numerous small teeth and distinct posterior projections.

General colouration grey with whitish longitudinal stripes on pronotum, and less distinct stripes and spots on elytron. Wing brownish infumate, remigium darker than vannus. Hind tibia dirty blackish-purple.

♀. Larger, much more robust than male. Integument granulose, rugulose with teeth and spines over whole body. Fastigium of vertex relatively wider than in males; excision of frons, in profile, deeper than in male. Pronotum comparatively short, with large tubercles and teeth, thick, with very deep fenestrae; crest in profile irregularly arcuate, in metazona roughly serrated. Prosternal tubercle deeper bilobate than in male. Both margins of hind femur with extremely large acute teeth. All abdominal tergites with small subacute apical teeth and two lateral rows of teeth and further two rows of obtuse teeth and tubercles.

General colouration greyish, with whitish and brown irregular stripes and spots, over whole body. Hind tibia as in male.

Length of body ♂ 51-56.5, ♀ 69-80.5; pronotum ♂ 19-22.7, ♀ 19.3-20; elytron ♂ 61.5-64; hind femur ♂ 22-24.7, ♀ 25.4-29.3 mm.

Specimens examined:

South Africa: Cape Prov., Matjesfontein, 1 ♂ (Neotype), 1 ♀ (G. Van Son). Springbok, Namaqualand, 2 ♂ (R. H. N. Smithers). Ookiep, 1 ♀ (E. Pinhey). "South Africa", 2 ♀, 1 ♂.

The specimens studied vary in body size, height and form of pronotal crest, development of the spines on the margins of hind femur and general colouration, which might be greyish, brownish and sometimes greenish.

Cultrinotus I. Bolivar 1925

Generic type: *Cultrinotus poultoni* I. Bolivar 1915.

Of medium size, with strongly granulose integument; female somewhat larger than male.

Antenna compressed, moderately widened at basal part, with segmentation uniform, without division on basal, medial parts and flagellum. Fastigium of vertex flat, horizontal, with angulate apex forming projection. Pronotum with high, strongly compressed crest, strongly serrated in metazona. Prosternal tubercle broadly cuneiform, with bilobate apex and small tubercles on posterior surface. Margins of hind femur narrow, upper margin with larger, lower with smaller, teeth. Male with shortened elytron slightly exceeding middle of abdomen. Wing vestigial; female apterous. Male subgenital plate conical. Cercus narrow-conical. Female subgenital plate with widely rounded, almost truncate apex. Valves of ovipositor short, broad, robust, with slightly upcurved apices. Supra-anal plate, in both sexes, with acutangulate apex and deep longitudinal sulcus in the middle.

Apical valves of penis narrowing towards apex with serration on sides of basal part. Epiphallus wide, with numerous small teeth and angularly protruding posterior margin.

Key to species.

Males.

1 (2). Fastigium of vertex, in profile, less projecting. Crest of pronotum more arcuate, with less serrated metazona. Antenna less serrated (Fig. 26). .... **poultoni** I. Bol.

2 (1). Fastigium of vertex, in profile, more projecting. Crest of pronotum less arcuate, with metazona more serrated. Antenna more serrated (Fig. 27). .... **luanensis** Uv.

Females.

1 (2). Fastigium of vertex, in profile, little projecting forwards. Pronotal crest arcuate, little serrated in metazona (Fig. 26). .... **poultoni** I. Bol.

2 (1). Fastigium of vertex, in profile, strongly projecting forwards. Pronotal crest angular, strongly serrated in metazona (Fig. 27).

3 (4). Crest of pronotum higher and more angulate. Hind femur relatively longer, with longer teeth on both margins. Fastigium of vertex, in profile, more projecting (Fig. 27). .... **apicalis** (Walk.).

4 (3). Crest of pronotum lower, with larger angle. Hind femur relatively shorter, with shorter teeth on both margins. Fastigium of vertex, in profile, less projecting (Fig. 27). .... **luanensis** (Uv.).

Cultrinotus poultoni I. Bolivar 1915 (Fig. 26).

1915. *Cultrinotus poultoni* I. Bolivar, Bol. Soc. esp. Hist. Nat., 15: 90. Type ♂. Salisbury, Mashonaland. British Mus. (Nat. Hist.)

The species was described from one male and one female. Here the male is designated as the type.

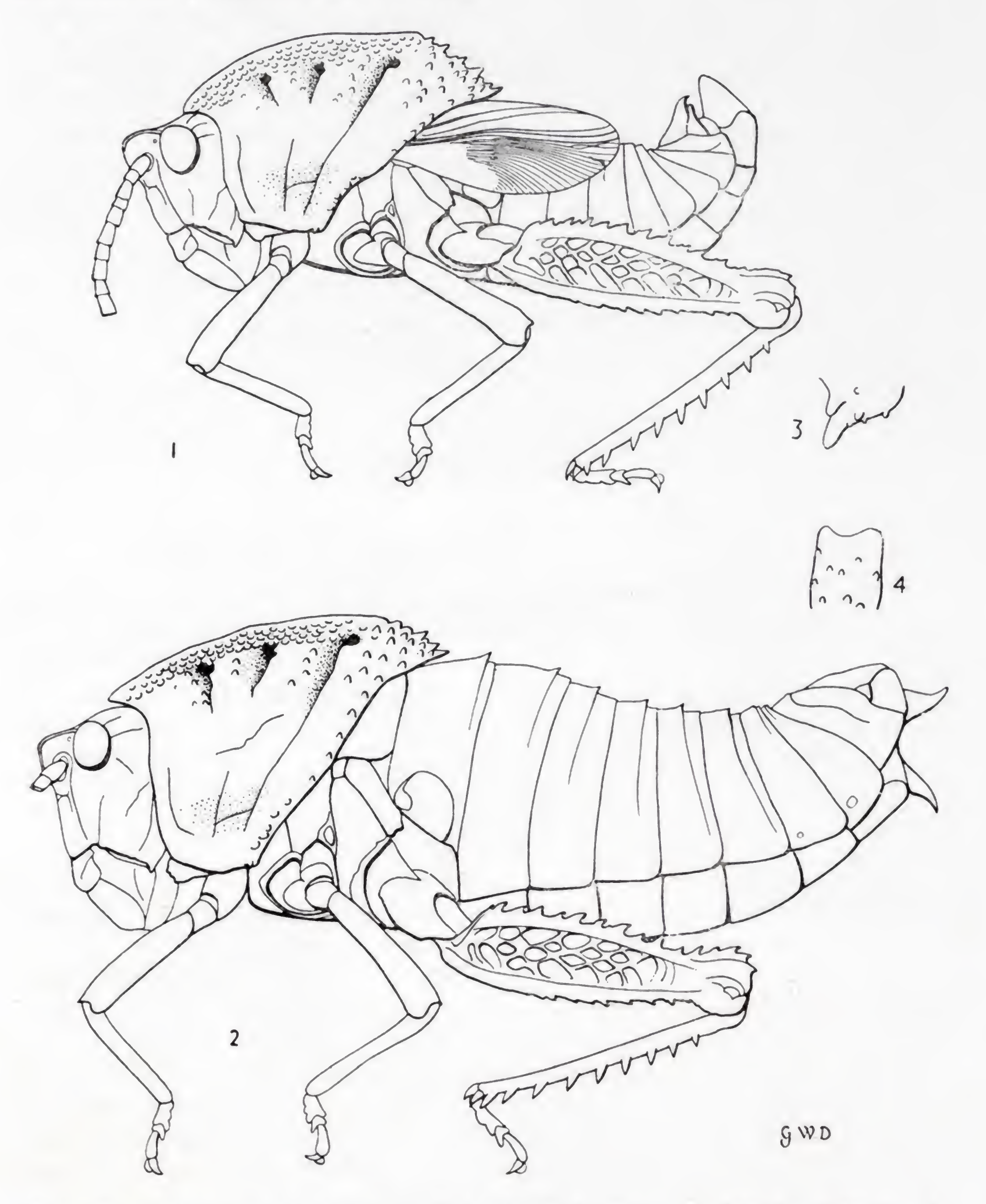


Fig. 26.—*Cultrinotus poultoni* I. Bol. 1, male type. 2, female allotype. 3, prosternal tubercle, male, lateral view from left side. 4, ditto, posterior view.

♂ (Type). Of medium size. Fastigium of vertex comparatively short, with angulate apex and short fine median carinula in basal part. In profile, fastigium of vertex and upper part of frons comparatively moderately projecting forwards. Crest of pronotum regularly excurved, in metazona serrated, with moderately large teeth; posterior angle of lateral lobe of pronotum with few teeth and tubercles. Prosternal tubercle in profile cuneiform, in front narrow, with weakly bilobate apex and numerous small tubercles on posterior surface. Hind femur comparatively slender. Elytron scarcely exceeds middle of abdomen.

General colouration brown, with slight reddish tinge; lateral lobe of pronotum as well as dorsal part of elytra light brown. Internal side of hind tibia blue.

♀. Larger than male; body more robust and more strongly compressed.

Metazona of pronotum less strongly serrated. All abdominal tergites with small acute apical teeth. General colouration brownish-grey.

Length of body ♂ 30, ♀ 45; pronotum ♂ 15.2, ♀ 17; elytron ♂ 10.5; hind femur ♂ 14.5, ♀ 15.6 mm.

Specimens examined:

S. Rhodesia: Salisbury, 1 ♂, type, 1 ♀, paratype (G. A. K. Marshall). Hatfield, Salisbury, 1 ♀ (J. A. Whellan).

Cultrinotus luanensis Uvarov 1953 (Fig. 27).

1953. *Cultrinotus luanensis* Uvarov, Publ. cult. Comp. Diam. Angola, 21: 201, figs. 276, 277. Type ♂. Luano Valley, N. W. Rhodesia. British Mus. (Nat. Hist.)

♂ (Type). Of medium size, finely granulose and rugulose. Fastigium of vertex with angulate, slightly obtuse apex. Crest of pronotum comparatively low, angularly merging from prozona to metazona which is strongly serrated, with long acute teeth. Apex of prosternal tubercle shallowly bilobate, posterior surface with small tubercles. Hind femur comparatively slender, upper margin with large acute, lower margin with small subacute teeth.

Apical valves of penis strongly narrowing in apical half; in basal half finely serrated. Epiphallus wide with numerous small teeth and angulate posterior margin.

General colouration brownish. Lateral lobes of pronotum pale brown, sharply separated from dark crest. Dorsal surface of elytron pale brown. Hind tibia above and internal side bluish.

♀ (Paratype). Larger than male. Crest of pronotum lower and less angulate, with less serrated metazona. All abdominal tergites with small acute apical teeth.

Length of body ♂ 42, ♀ 55; pronotum ♂ 17, ♀ 21; elytron ♂ 10.5; hind femur ♂ 16, ♀ 19 mm.

Specimens examined:

N. Rhodesia: Luano Valley, 48 ♂, including type, and 47 ♀. Only the originally described series is known.

Cultrinotus apicalis (Walker 1870) (Fig. 27).

1870. *Pamphagus apicalis* Walker, Cat. Derm. Salt. Brit. Mus., 3: 553. Type ♀. East Africa. British Mus. (Nat. Hist.)

♀ (Type). Large, finely granulose. Antenna shorter than head and pronotum together. Fastigium of vertex and upper part of frons in profile, angulate and strongly projecting forwards. Crest of pronotum high, in profile little excurved, angulate towards metazona which is strongly serrated. Prosternal tubercle with deeply bilobate apex and numerous small tubercles on posterior surface. Hind femur slender, with both margins strongly serrated. All abdominal tergites with small acute apical teeth.

General colouration probably brownish, with lighter coloured lateral lobe of pronotum (specimen discoloured by previous preservation in spirit).

Length of body 59, pronotum 22, hind femur 20.6 mm.

Only the type is known.

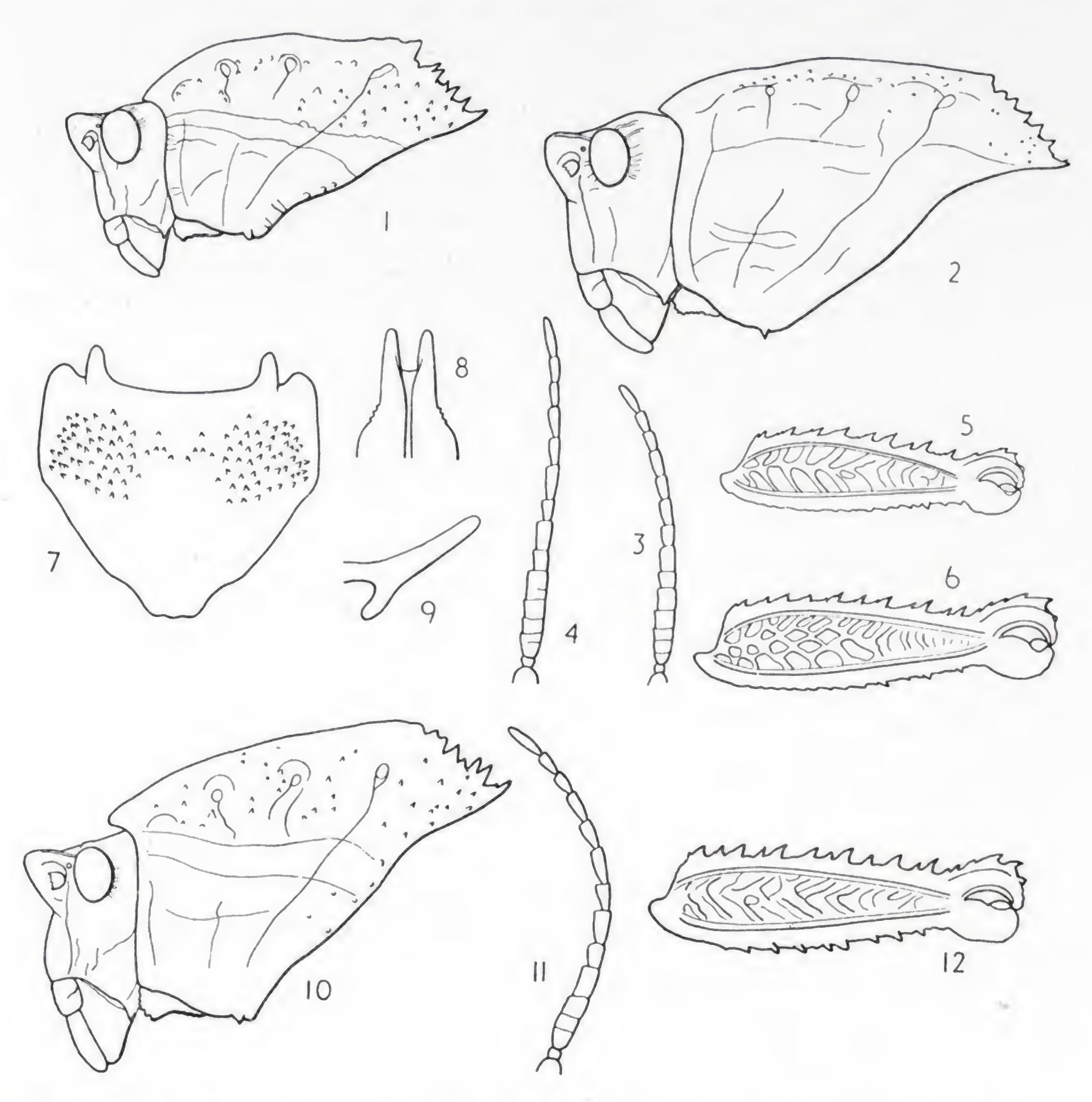


Fig. 27. *Cultrinotus luanensis* Uv. Male type, female allotype. 1, head and pronotum, male. 2, ditto, female. 3, left antenna, male. 4, ditto, female. 5, hind femur, male. 6, ditto, female. 7, epiphallus. 8, apical valves of penis, from above. 9, ditto, lateral view; *Cultrinotus apicalis* (Walk.). Female type. 10, head and pronotum. 11, left antenna. 12, hind femur.

Transvaaliana gen. n.

Generic type: *Xiphocera distanti* Saussure 1892.

Small, with granulose and rugulose integument; female more robust than male.

Antenna compressed, slightly widened at basal part, and gradually tapering towards apex, with uniform segmentation. Fastigium of vertex deeply concave, with sharp marginal carinulae, which in anterior part forms lateral projections in front of the eyes; in profile fastigium

not projecting; frons only slightly excised at ocellus. Pronotum with high, strongly compressed crest not crossed by sulci, with three fenestrae, its posterior angle shallowly birfurcate. Prosternal tubercle with bilobate or trilobate apex and a pair or two pairs of small tubercles on posterior surface. Hind femur with narrow margins; upper margin deeply serrated or toothed, lower one irregularly serrated, sometimes with obtuse teeth; fish-bone pattern on external side. Male micropterous, female apterous. Male subgenital plate conical; cercus compressed, with narrow-angulate, upcurved apex. Female subgenital plate with broadly rounded almost truncate apex. Valves of ovipositor short, wide, with little curved apices. Supra-anal plate, in both sexes, simple, with angulate apex and longitudinal sulcus in the middle.

Apical valves of penis short and very wide, with short attenuate apices and finely serrated edges. Epiphallus about as long as wide, with very strong, clustered together, teeth and projecting posterior margin.

The new genus differs strongly from all known genera of the group by deeply concave fastigium of vertex, with strong marginal carinulae projecting in front of the eyes; by the shape of frons and pattern of sculpture on the external side of hind femur, which is rather unusual for the group, being of regular fish-bone type.

The three species of the genus are known; unfortunately a male of only one species is known.

Key to species.

Females.

1 (4). Crest of pronotum lower, not serrated. Teeth on lower margin of hind femur comparatively obtuse (Figs. 28, 29). Apex of prosternal tubercle bilobate.

2 (3). Body rugulose. Teeth on lower margin of hind femur large (Fig. 28). .... **distanti** (Sauss.).

3 (2). Body granulose. Teeth on lower margin of hind femur small (Fig. 29). .... **granulosa** (Kirby).

4 (1). Crest of pronotum higher, slightly serrated in posterior part of metazona. Teeth on lower margin of hind femur comparatively acute (Fig. 29). Apex of prosternal tubercle trilobate. ...... **picta** (Sauss.).

Transvaaliana distanti (Saussure 1892) (Fig. 28).

1892. *Xiphocera distanti* Saussure, Natur. in Transvaal: 261, pl. 1, f. 9. Type ♀. «Pretoria», Transvaal. British Mus. (Nat. Hist.)

♂. Of moderate size, moderately granulose. Apex of fastigium of vertex narrow angulate, with high sharp anterior and less high posterior marginal carinulae; frontal ridge narrow, with deep sulcus and sharp lateral carinae, which are strongly divergent at the base. Crest of pronotum comparatively low and little excurved without any serration. Prosternal tubercle weakly bilobate, with a pair of small, tooth-like tubercles on posterior surface. Elytron narrow, lobiform, reaching middle of second abdominal tergite. Upper margin of hind femur serrated with acute teeth, lower margin with small obtuse irregularly located teeth. All abdominal tergites with large apical teeth.

General colouration brownish-grey. On sides of pronotum and abdomen there are narrow whitish streaks.

♀ (Type). Much larger and more robust than male. Crest of pronotum slightly higher and more convex.

Length of body ♂ 31, ♀ 45-47; pronotum ♂ 14, ♀ 16-18.5; elytron ♂ 7; hind femur ♂ 14.3, ♀ 16-17.6 mm.

Specimens examined:

Transvaal: Pretoria 1 ♂, 2 ♀ including type (W. Distant). All three specimens have identical labels and were probably collected together.

Transvaaliana granulosa (Kirby 1902) (Fig. 29).

1902. *Xiphocera granulosa* Kirby, Trans. ent. Soc. Lond.: 97. Type ♀. Pretoria, Transvaal. British Mus. (Nat. Hist.)

♀ (Type). Of moderate size, finely granulose. Fastigium of vertex with widely angulate apex; marginal carinulae sharp, high, in posterior part slightly lower. Frons in profile with slight depression at ocellus; frontal ridge narrow with high, sharp carinulae, which are

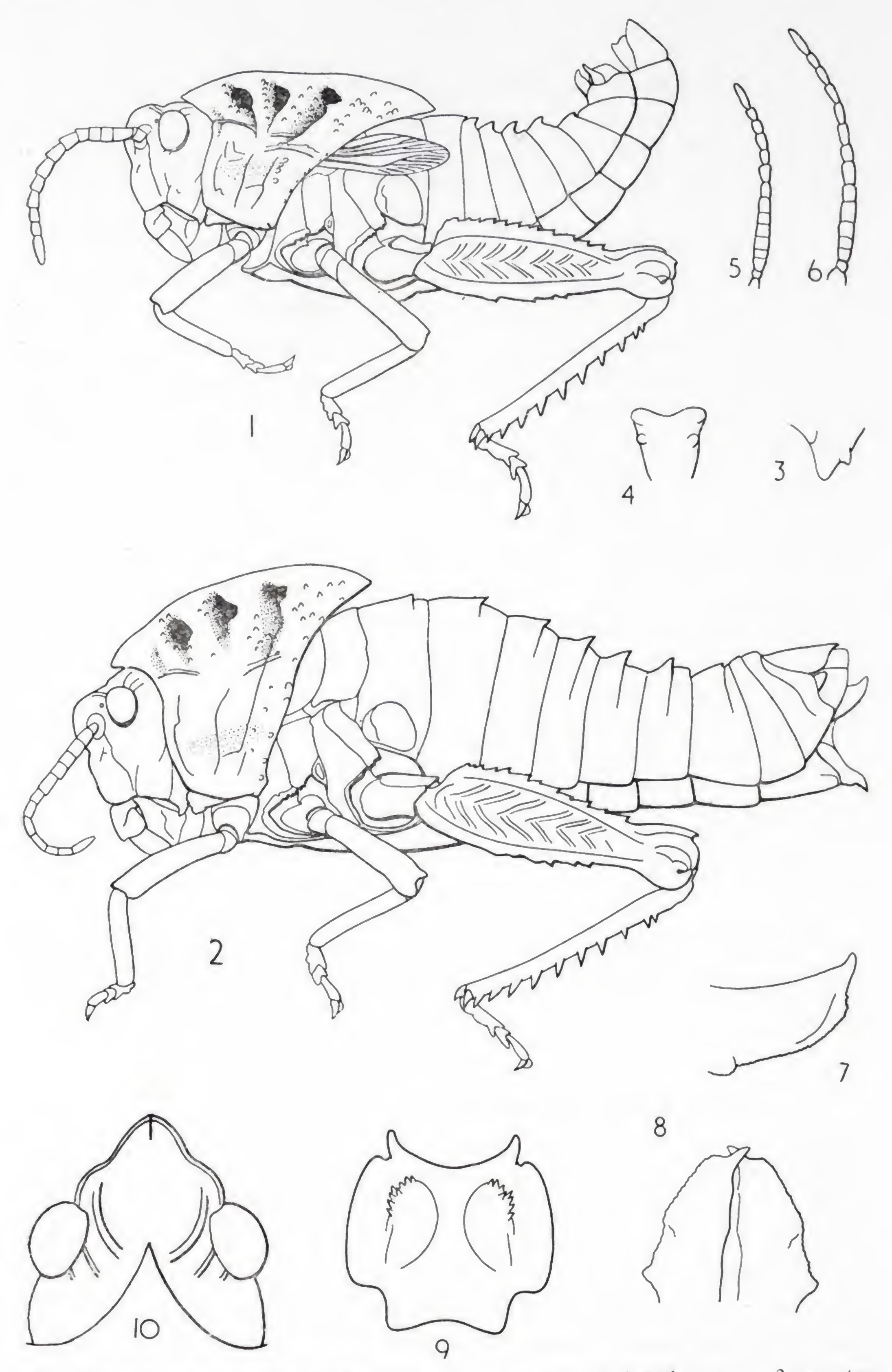


Fig. 28.—*Transvaaliana distanti* (Sauss.). 1, male. 2, female, type. 3, prosternal tubercle, female, lateral view from left side. 4, ditto, from posterior. 5,

parallel in upper half, with deep sulcus between them, below ocellus they are fused in a single thin carinula, but lower down are separated again and diverge at acute angle. Pronotum with moderately high crest, which is little excurved. Prosternal tubercle wide, moderately deeply bilobate, with two pair of small tubercles on posterior surface. Upper margin of hind femur with acute teeth, lower margin with sparse, small, obtuse, irregularly located teeth. All abdominal tergites with moderately large acute teeth. Valves of ovipositor very short, robust with slightly curved apices.

General colouration uniformly greyish-brown. It is not possible to decide about colouration of tibia since the specimen is old and discoloured.

Length of body 36, pronotum 18, hind femur 17.5 mm.

Specimens examined:

Transvaal: Pretoria, 2 ♀, including type. Johannesburg, 1 ♀ (W. Distant).

Transvaaliana picta (Saussure 1892) (Fig. 29).

1892. *Xiphocera picta* Saussure, Natur. in Transvaal: 261, pl. 4, f. 2. Type ♀. Waterberg, Transvaal. British Mus. (Nat. Hist.)

♀ (Type). Of moderate size, granulose and rugulose. Fastigium of vertex widely angulate, concave, with moderately high marginal carinulae. Frons, in profile, with very shallow excision at ocellus; frontal ridge narrow with high carinulae, which are parallel in the upper half, with a deep sulcus between them; below ocellus the carinulae are fused in a short, narrow single carinula, which further down is divided again and divergent at an acute angle. Pronotum with high, widely excurved crest, roughly serrated in metazona. Prosternal tubercle with trilobate apex and two pairs of small tubercles on posterior surface. Both margins of hind femur with acute teeth. All abdominal tergites with large, very acute apical teeth. Valves of ovipositor short, moderately robust, with curved apices.

---

left antenna, male. 6, ditto, female. 7, apical valves of penis, lateral view. 8, apical valves of penis, from above. 9, epiphallus. 10, head, from above.

*

General colouration greyish-brown, with grey stripes on pronotum and abdomen and a row of white streaks along upper part of pronotum and on each abdominal tergite.

Length of body 39, pronotum 16.5, hind femur 15.6 mm.

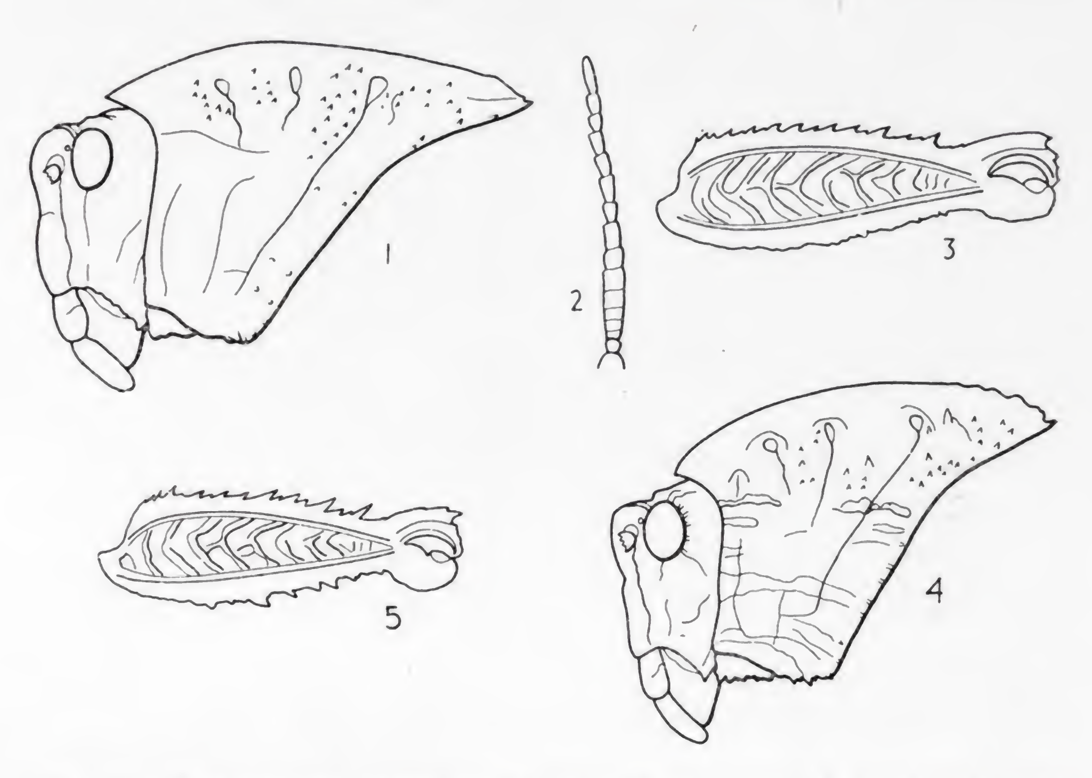


Fig. 29.—*Transvaaliana granulosa* (Kirby). Female type. 1, head and pronotum. 2, left antenna. 3, hind femur; *Transvaaliana picta* (Sauss.). Female type. 4, head and pronotum. 5, hind femur.

Specimens examined:

Transvaal: Waterberg, 1 ♀ type (W. Distant). Pretoria, 4 nymphs.

Puncticornia gen. n.

Generic type: *Xiphocera puncticornis* Stål 1876.

Large, rugulose and granulose, female much larger than male. Antenna slightly widened and compressed in basal part and gradually tapering towards apex, segmentation uniform without division on basal, medial parts and flagellum. Fastigium of vertex and frons, in profile, slightly projecting forwards; above, fastigium narrow, elongated, slightly sloping. Pronotum approximate to tectiform with low

crest, fenestrae absent, crest in both sexes slightly granulose in metazona. Prosternal tubercle conical, in male with acute, in female with slightly spathulate and weakly excised apex. Margins of hind femur not widened, upper one with strong very long teeth, lower with smaller teeth and roughly serrated. Male macropterous; elytron exceeds end of abdomen, its anterior margin convex, posterior almost straight, apex rounded. Female apterous. Male subgenital plate conical. Cercus compressed, slightly widened in basal half, in apical half narrowing and slightly upcurved. Female subgenital plate shallowly trilobate; valves of ovipositor short, moderately robust with slightly curved apices. Supra-anal plate in both sexes triangular with longitudinal sulcus in the middle. Apical valves of penis long, narrowing towards apex with fine serration on sides. Epiphallus with two groups of very numerous small teeth and projecting posterior margin.

Puncticornia puncticornis (Stål 1876) (Fig. 30).

1876. *Xiphocera (Porthetis) puncticornis* Stål, Öfvers. Vet. Akad. Forh., 33 (3): 39. Type ♂. Damara, S.W. Africa. Type lost.

1932. *Lamarckiana puncticornis* Sjöstedt, Soc. ent. France, Livr. Cent.: 543, pl. 27, f. 1, pl. 28, f. 1a, 1b, 2a, 2b. Neotype ♂. Klein Karas, Stockholm Mus.

The type of the species is lost, but later (1932) Sjöstedt redescribed the species from a male, which can be regarded as neotype. The specimens studied by me agree perfectly with Sjöstedt's redescription and figures.

♂. Antenna shorter than head and pronotum together. Fastigium of vertex narrow, concave, with angulate apex; marginal and median carinulae distinct; in profile fastigium moderately projecting forwards, with apex rounded. Metazona of pronotum shorter than prozona. Elytron exceeds end of abdomen by slightly less than the length of pronotum.

General colouration brownish-grey scattered, small, dark brown dots. Wing strongly infumate. Internal side of hind tibia bluish grey.

♀. Large, with granulose and slightly shiny integument. Fastigium of vertex, above, less narrow than in the male and with more acute apex; median carinula indistinct, marginal carinulae well developed; in profile, fastigium moderately projecting forwards, with round-

ed apex. Metazona of pronotum much shorter than prozona. Only on first and second abdominal tergites there are small apical tubercles.

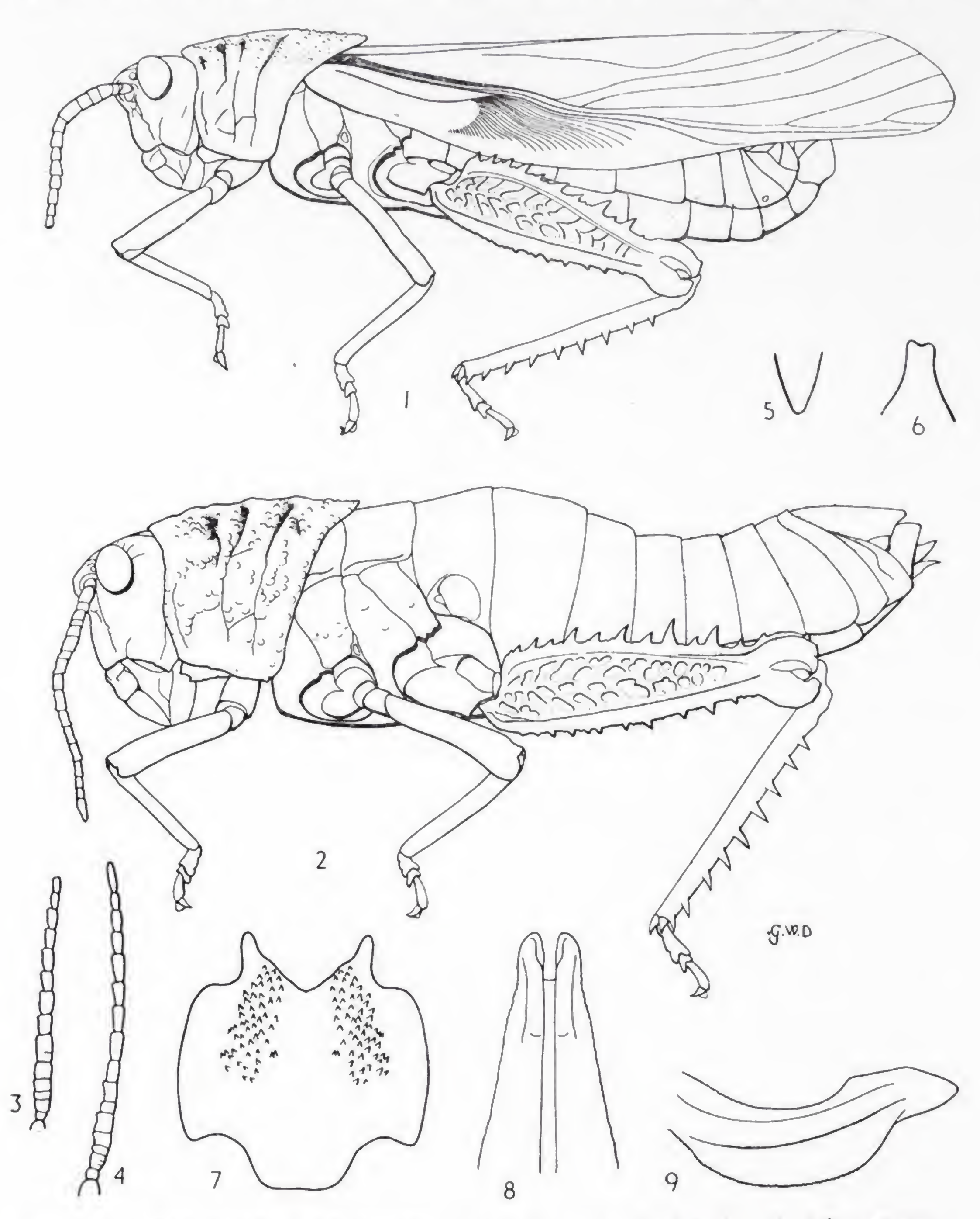


Fig. 30.—*Puncticornia puncticornis* (St.). 1, male. 2, female. 3, left antenna, male. 4, ditto, female. 5, prosternal tubercle, male, lateral view. 6, ditto, posterior view. 7, epiphallus. 8, apical valves of penis, from above. 9, ditto, lateral view.

General colouration brownish; pronotum with small blackish dots. Internal side of hind femur pale reddish, lower side brownish; in-

ternal side of hind tibia ochraceous, with dark brown, basally bluish, spines.

Length of body ♂ 53-59, ♀ 70-80; pronotum ♂ 15-16.5, ♀ 16-18; ♂ elytron 48-54; hind femur ♂ 21-22.5, ♀ 26.5-28 mm.

Specimens examined:

Bushmanland: Pella, Oct. 1950, 1 ♂, 1 ♀ (G. Van Son).
Namaqualand: Namib, 70 m. N.W. of Aus, 1 ♂ (G. Van Son).

Stolliana I. Bolivar 1916.

Generic type: *Porthetis sabulosus* Stål 1875.

Large or medium size, with strongly granulose and rugulose integument; female much larger than male.

Antenna narrow, slightly compressed, with uniform segmentation without division on basal and medial parts and flagellum. Fastigium of vertex sloping, forming with upper part of frons slight rounded projection. Pronotum moderately high, moderately excurved in profile, with low crest and with three fenestrae, in metazona serrated or granulose, with acute posterior angle. Prosternal tubercle cuneiform, with bilobate apex and numerous tubercles on posterior surface. Margins of hind femur not expanded, upper one with strong large, lower one with smaller teeth or irregularly serrated. Male macropterous or brachypterous. Female apterous. Abdominal stridulatory organ present in male. Male subgenital plate short, conical; cercus compressed, widened in base and narrowing towards apex; female subgenital plate with widely rounded apex; ovipositor short, robust, with valves slightly curved; supra-anal plate in both sexes simple, elongate-triangular with longitudinal sulcus in the middle. Apical valves of penis long, narrow, only slightly narrowing towards apex. Epiphallus slightly wider than its length with numerous small teeth.

The genus is rather heterogenous, *S. sabulosa* being brachypterous and the other two species macropterous. It should, possibly, be divided in two genera.

Key to species.

Males.

1 (2). Brachypterous; crest of pronotum in metazona serrated (Fig. 31) .... **sabulosa** (St.).
2 (1). Macropterous; crest of pronotum not serrated (Figs. 32, 33).
3 (4). Larger size; crest of pronotum higher and more arcuate (Fig. 32). .... **angusticornis** sp. n.
4 (3). Smaller; crest of pronotum lower and less arcuate (Fig. 36). .... **minor** sp. n.

Females.

1 (2). Crest of pronotum in metazona serrated. Hind femur relatively shorther (Fig. 31). .... **sabulosa** (St.).
2 (1). Crest of pronotum in metazona not serrated. Hind femur relatively longer (Figs. 32, 33).
3 (4). Crest of pronotum high and more arcuate (Fig. 32). Size larger. .... **angusticornis** sp. n.
4 (3). Crest of pronotum lower and less arcuate (Fig. 33). Size smaller. .... **minor** sp. n.

Stolliana sabulosa (Stål 1875) (Fig. 31).

1875. *Porthetis sabulosus* Stål, K. Sven. Vet. Akad. Handl., 3 (14): 26. Type ♂. Damaraland, S.W. Africa. Stockholm Mus.

The species was described from a male and a female; here the male is designated as the type.

♂ (Type). Of medium size and strongly granulose. Antenna strongly compressed, shorter than head and pronotum together. Fastigium of vertex narrow, with angulate apex; in profile, very slightly roundly excurved; short occipital carinula present. Pronotum with low regularly excurved crest, serrated in metazona; transverse sulci deep. Hind femur short and relatively wide, both margins with strong teeth, on upper margin longer than in lower one. Elytron reaching middle of fifth abdominal tergite, with rounded apex, wing vestigial, reaching middle of first abdominal tergite.

General colouration light grey, with whitish longitudinal stripes on lateral lobes of pronotum. Internal side of hind femur dark blue, sharply separated from whitish-grey preapical part. Internal side of hind tibia dark blue, with apex and tarsus red.

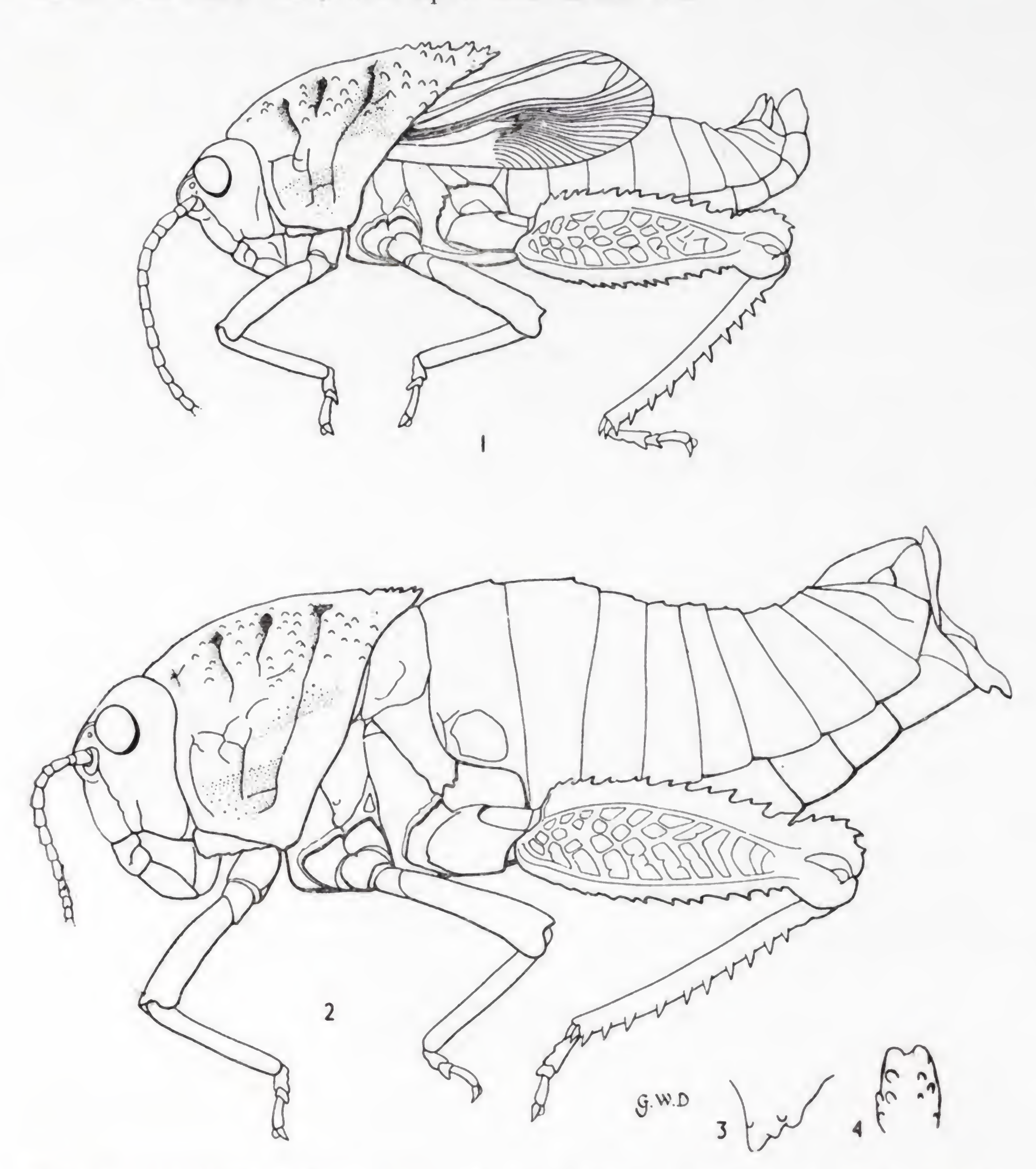


Fig. 31.—*Stolliana sabulosa* (St.). 1, male, type. 2, female. 3, prosternal tubercle, in profile. 4, ditto, posterior view.

♀. Differs from the male by more compressed and much larger size of body. Fastigium of vertex wider. Metazona of pronotum less serrated. Colouration the same as in the male, but blue colour of internal side of hind femur is rather pale.

Length of body ♂ 38, ♀ 50-57.5; pronotum ♂ 17, ♀ 17-20; elytron ♂ 16.4; hind femur ♂ 16, ♀ 19.6-21.2 mm.

Specimens examined:

S.W. Africa: Damaraland, 1 ♂ (type), 1 ♀. Kamanyab, June 1937, 2 ♀ (V. Fitzsimmons).

Stolliana angusticornis sp. n. (Fig. 32).

♂ (Type). Very large and moderately granulose. Antenna shorter than head and pronotum together. Fastigium of vertex above narrow, with angulate apex, in profile only very slightly roundly excurved. Crest of pronotum thin and relatively strongly curved in profile, not serrated in metazona, with shallow transverse sulci. Elytron wide, exceeds end of abdomen by less than the length of pronotum, with regularly excurved anterior and obliquely truncate apical margins. Hind femur moderately long, relatively narrow; upper margin with short, acute teeth, lower margin shallowly serrated.

Apical valves of penis strongly elongated, narrow, slightly curved at apex and covered with small teeth. Posterior margin of epiphallus excurved.

General colouration brownish-grey; on side of pronotum on eye level there is whitish stripe. Wing dark infumate. Internal side of hind femur yellowish, with yellow preapical part and knee; basal part of hind tibia above yellow; internal side of hind tibia dark bluish-grey.

♀ (Paratype). Much larger than male, with thick, almost cylindrical body, which is rugulose and densely tuberculate. Pronotum with low, only slightly curved crest. Every abdominal tergite with small apical tooth.

General colouration greyish, with whitish stripe on side of pronotum and abdomen, which begins on eye level. Internal side of hind femur, light orange, in preapical part more intensely orange. Base of hind tibia above orange-yellow, internal side grey.

Length of body ♂ 54-58 (type 54), ♀ 64-77.5; pronotum ♂ 18-19 (type 18), ♀ 21.5-22; ♂ elytron 53-58 (type 53); hind femur ♂ 22-23 (type 22), ♀ 26-28 mm.

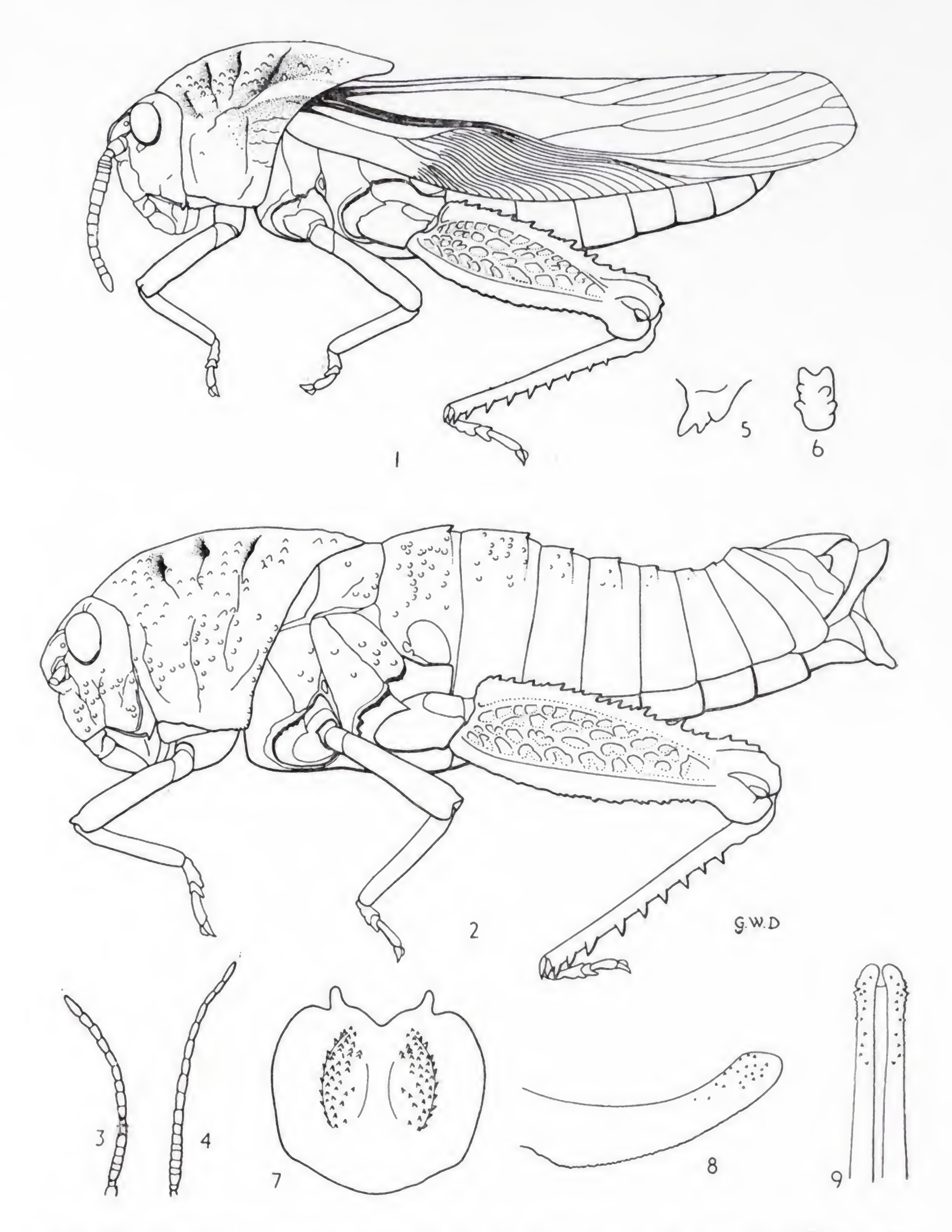


Fig. 32.—*Stolliana angusticornis* sp. n. 1, male type. 2, female allotype. 3, left antenna, male. 4, ditto, female. 5, prosternal tubercle, male, lateral view, from left side. 6, ditto, posterior view. 7, epiphallus. 8, apical valve of penis, lateral view. 9, apical valves of penis, from above.

Specimens examined:

Cape Prov.: Willowmore, 16.3.1940, 2 ♂ (including type) (G. Van Son), Sept. Oct. 1916, 1917, 1 ♂, 1 ♀ (Bauns). Matiesfontain, Sept. 1940, 1 ♂, 1 ♀ (G. Van Son). Jonkersberg, Nov. 1941, 1 ♀ (G. Van Son). Type in Transvaal Museum, Pretoria. One male, one female paratypes in the British Museum (Natural History).

Stolliana minor sp. n. (Fig. 33).

♂ (Type). Moderately large and moderately granulose. Antenna shorter than head and pronotum together. Fastigium of vertex narrow, with angulate apex, in profile scarcely excurved. Frons with small depression at ocellus. Crest of pronotum very low, with almost straight upper margin, metazona not serrated; transverse sulci shallow, weak. Elytron exceeds end of abdomen by about half the length of pronotum, with excurved anterior and obliquely truncate apical margins. Hind femur relatively long; upper margin with short acute teeth, lower margin shallowly serrated.

Apical valves of penis long, narrow, with slightly widened apex without teeth. Posterior margin of epiphallus straight.

General colouration greyish-brown. On head, below eye, and on side of pronotum there is wide pale ochraceous stripe. Wing strongly infumate. Preapical part of internal side of hind femur and base of hind tibia above yellowish, internal side of hind tibia purplish.

♀ (Paratype). Much more robust than the male, more strongly rugulose and granulose. Pronotum with very low crest, its upper margin almost straight. Abdominal tergites with small apical tubercles instead of teeth.

General colouration brownish. Ochraceous stripe on head and side of pronotum indistinct. Preapical part of hind femur on both sides yellowish; basal part above, lower and partly external side of hind tibia, yellowish; internal side greyish (probably discoloured).

Length of body ♂ 49, ♀ 52 (shrunk), pronotum ♂ 15.4, ♀ 19; ♂ elytron 40; hind femur ♂ 19, ♀ 24 mm.

The new species is superficially very similar to *S. angusticornis*

and differs by smaller size and lower, almost straight pronotal crest, but the apical valves of penis and epiphallus (see Figs. 32 and 33) are very different.

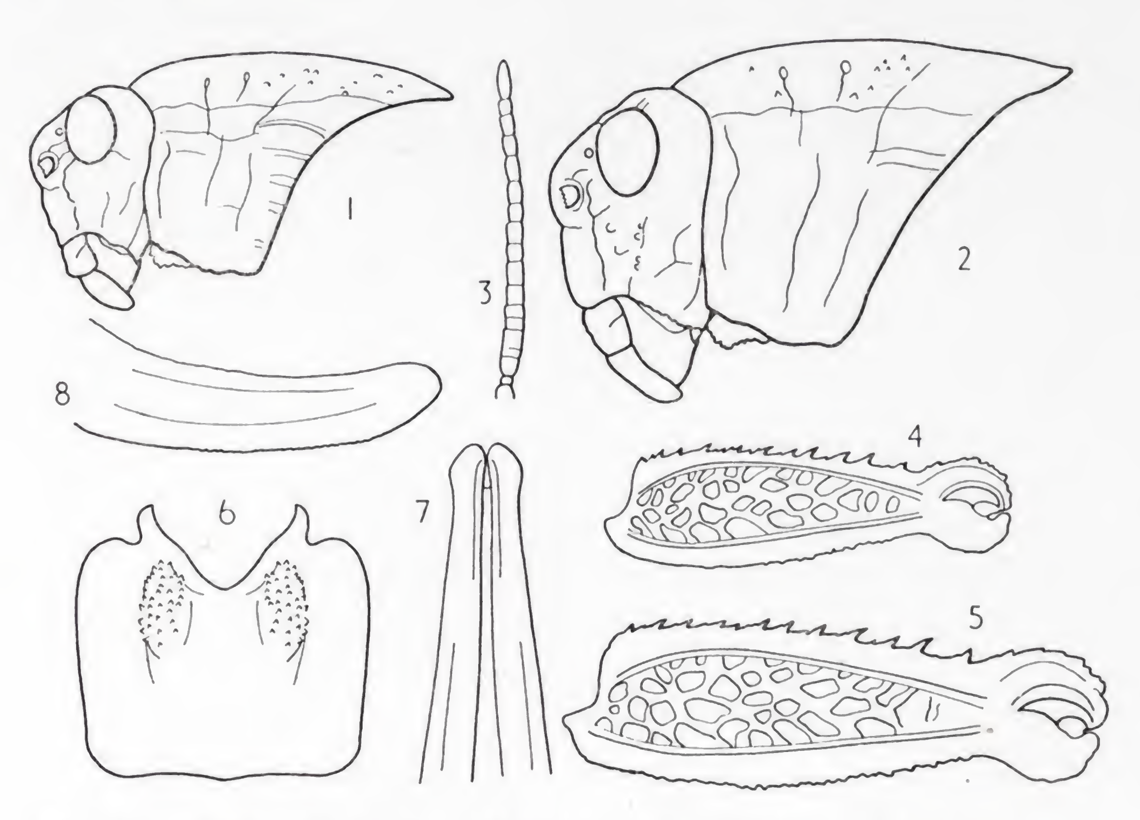


Fig. 33.—*Stolliana minor* sp. n. Male type, female allotype. 1, head and pronotum, male. 2, ditto, female. 3, left antenna, male. 4, hind femur, male. 5, ditto, female. 6, epiphallus. 7, apical valves of penis, from above. 8, ditto, lateral view.

Specimens examined:

Cape Prov.: De Wet, Oct. 1940, 1 ♂ type, 1 ♀ (G. Van Son). Seven Weaks Port, Oct. 1941, 1 ♂ (G. Van Son).

Type in Transvaal Museum, Pretoria. One male paratype in the British Museum (Natural History).

Pagopedilum Karsch 1896.

Generic type: *Pagopedilum subcruciatum* Karsch 1896.

Of moderate size, With granulose and rugulose integument.

Antenna narrow, slightly compressed, with uniform segmentation. Fastigium of vertex sloping forwards, flat, in profile not forming

projection with upper part of frons, which is, in profile, straight or slightly convex; frons without excision. Pronotum with high crest, and three fenestrae, not crossed by transverse sulci and not serrated. Prosternal tubercle broad, its posterior surface with wide, strongly projecting carinula (cross-section of the tubercle similar to letter T). Hind femur with narrow margins, upper one deeply serrated or with strong teeth, lower one with obtuse teeth and roughly serrated. Male brachypterous, female apterous.

Male subgenital plate short, conical; cercus compressed, conical, with apical part slightly upcurved. Female subgenital plate with almost truncate apex; valves of ovipositor short, slightly curved at apices. Supra-anal plate, in both sexes, angulate, with deep longitudinal sulcus in middle.

This is a very insufficiently studied genus. All four species are known only from the types, and all types, except *P. sordidus,* are females (including one nymph). The genus, however, is easily recognised by the peculiar shape of prosternal tubercle.

Pagopedilum subcruciatum (Karsch 1896).

1896. *Pagopedilum subcruciatum* Karsch, Stett. Ent. Zeit.: 277, f. 13. Type ♀, lost. «Africa meridionalis, Transvaal.»

The single type of this species is lost and only the original description, with a rather inadequate figure, remains for recognising the species. Whether it is conspecific with some of the species described later, is impossible to decide.

Pagopedilum sordidum (Walker 1870) (Fig. 34).

1870. *Pamphagus sordidus* Walker, Cat. Derm. Salt. Brit. Mus., 3: 535. Type ♂. S. Africa. British Mus. (Nat. Hist.)

♂ Type. Of medium size. Strongly rugulose. Fastigium of vertex above rugulose, wide and strongly angulate. Frontal ridge above the ocellus narrow with deep sulcus and sharp lateral carinulae, below ocellus without sulcus, with carinulae strongly divergent. Pronotum with comparatively low, broadly arcuate crest. Prosternal tubercle with wide frontal part and rounded apex. Margins of hind

femur narrow, upper margin with strong acute teeth, lower with low obtuse, irregular serration. Elytron not reaching third abdominal tergite. All abdominal tergites with small, acute apical teeth.

Apical valves of penis wide, gradually narrowing towards apex,

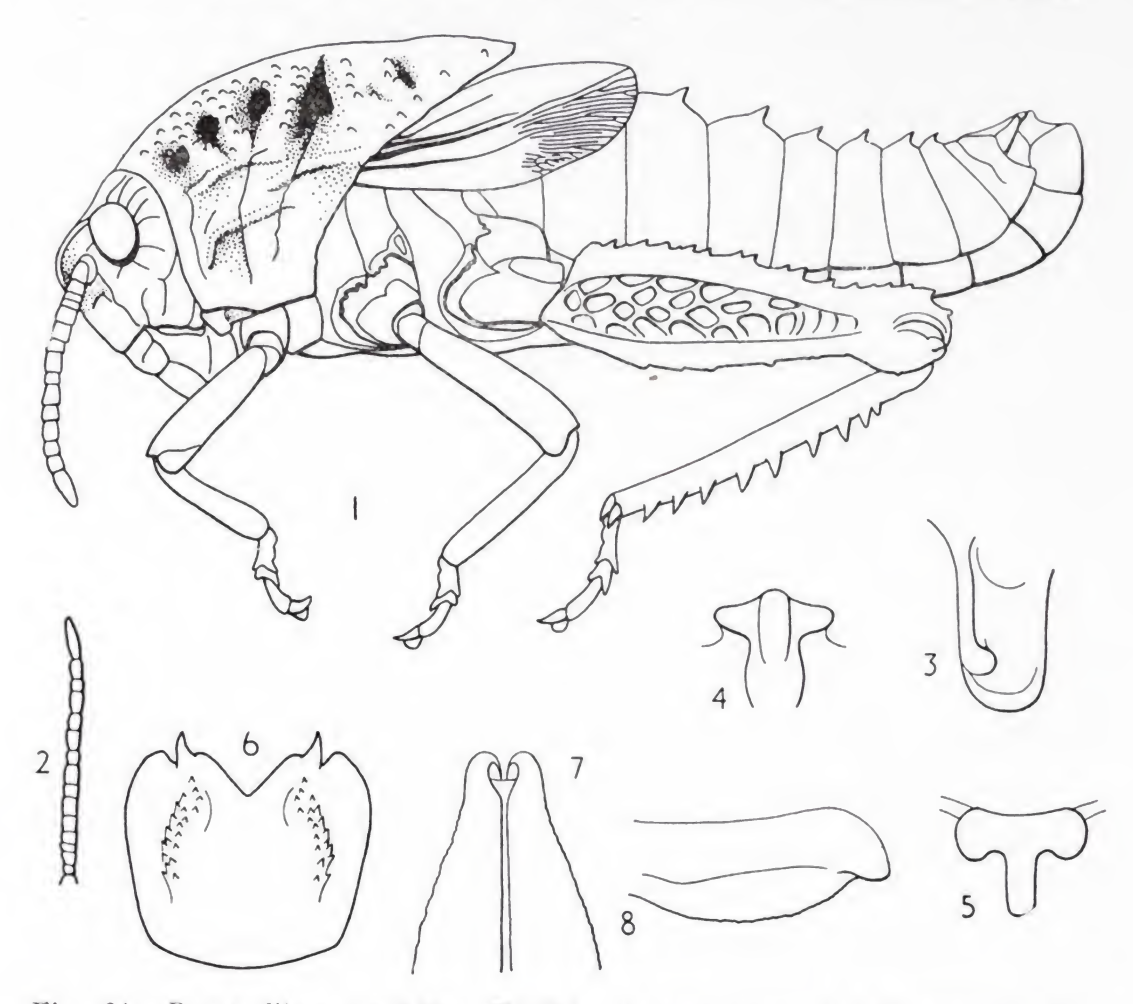


Fig. 34.—*Pagopedilum sordidum* (Walk.). 1, male type. 2, left antenna. 3, prosternal tubercle, lateral view from left side. 4, ditto, posterior view. 5, ditto, cross section. 6, epiphallus. 7, apical valves of penis, from above. 8, ditto, lateral view.

with fine, not very distinct serration on sides. Epiphallus about as long as wide, with slightly excurved posterior margin.

General colouration greyish-brown. Hind tibia of the same colour as whole body (specimen old and probably discoloured).

Length of body 44, pronotum 17, elytron 11.5, hind femur 15.6 mm.

Specimens examined:

Only the type with label "S. Africa" is known.

Pagopedilum martini I. Bolivar 1915 (Fig. 35).

1915. *Pagopedilum martini* I. Bolivar, Bol. Soc. esp. Hist. Nat., 15: 86. Type ♀. Natal. Madrid Mus.

♀ (Type). Large, comparatively little granulose. Fastigium of vertex slightly concave, almost smooth, with fastigial furrow, which continues up to occiput. Frons, in profile, straight, slightly sloping forwards. Crest of pronotum comparatively low, broadly arcuate. Prosternal tubercle in front spathulate, with a pair of lateral ridges and strong ridge on apical half of posterior surface, its apex, in frontal view, slightly excised. Upper margin of hind femur with small acute teeth, lower margin with shallow, irregular serration. All abdominal tergites with very small acute apical teeth.

General colouration probably brownish (the specimen discoloured by previous preservation in liquid).

Length of body 50, pronotum 19, hind femur 18.5 mm.

Specimens examined:

S. Africa: Natal, 1 ♀, type.

Pagopedilum bradyana (Saussure 1887) (Fig. 35).

1887. *Xiphocera bradyana* Saussure, Spic. Ent. Genav.: 33, 55, f. 1. Type ♀. Transvaal. Geneva Mus.

1887. *Xiphocera mannulus* Saussure, l.c.: 33, 56, f. 5, 5a. Type ♀. Grahamstown. Vienna Mus. *(Syn. n.)*

The type of *X. mannulus* is in reasonably good condition, but that of *X. bradyana* is damaged, without antennae and the prosternal tubercle destroyed. In other characters both specimens do not differ, except that *X. mannulus* is slightly more rugulose.

♀ (Type of *mannulus)*. Large. Strongly granulose and rugulose. Fastigium of vertex above comparatively wide, with granulose surface and angulate apex; in profile, fastigium and upper part of frons not projecting; frons, in profile sloping backwards and with

a shallow excision. Crest of pronotum low, moderately curved. Prosternal tubercle of complicated shape, wide in front, with robust lateral parts and trilobate apex; in posterior view, with a large and

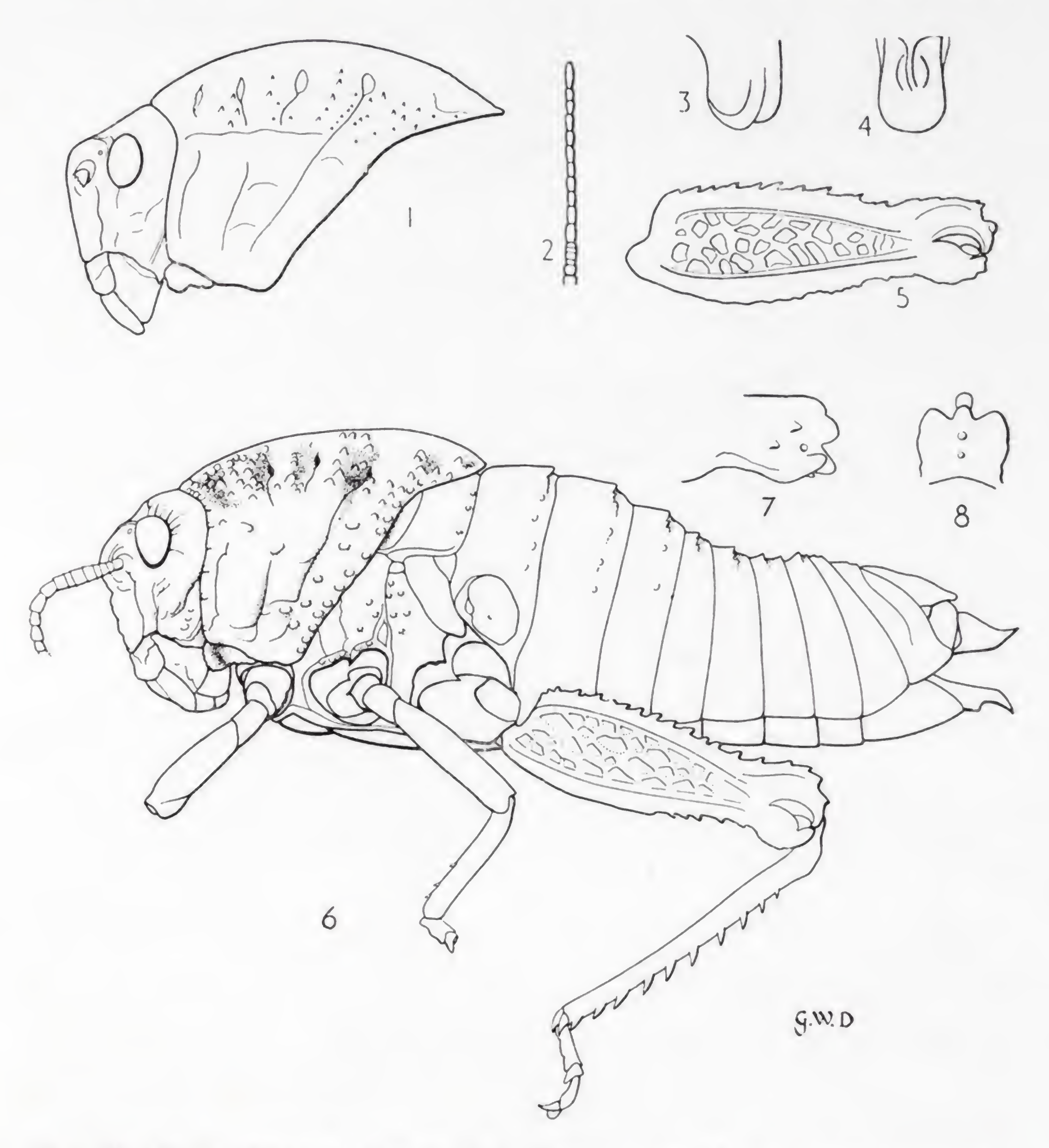


Fig. 35.—*Pagopedilum martini* I. Bol. Female type. 1, head and pronotum. 2, left antenna. 3, prosternal tubercle, lateral view from left side. 4, ditto, posterior view. 5, hind femur; *Pegopedilum bradyana* (Sauss.). 6, female, type. 7, prosternal tubercle, in profile. 8, ditto, posterior view. (Drawn from the type of *P. mannulus* Sauss.)

thick, ridge-like projecting part; in profile, its apex is irregularly sinuate, with projecting lateral parts; whole surface with sparse teeth and tubercles. Upper margin of hind femur with subacute teeth,

lower with smaller teeth in apical half. All abdominal tergites with small subacute apical teeth.

General colouration grey. Internal side of hind femur greyish-blue, preapical part and knee pinkish. Internal side of hind tibia dark blue.

Length of body 53-57, pronotum 18-20, hind femur 20-22 mm.

Specimens examined:

The types of *mannulus* and *bradyana* are the only known specimens.

Pagopedilum brevis (Walker 1870).

1870. *Pamphagus brevis* Walker, Cat. Derm. Salt. Brit. Mus., 3: 534. Type ♀, nymph. Natal. British Mus. (Nat. Hist.)

The single type is a female nymph, probably of the last stage. According to the shape of prosternal tubercle, antenna, head and pronotum it undoubtedly belongs to the genus *Pagopedilum,* but it is difficult to decide whether it is conspecific with *P. martini,* also described from Natal, or represents a separates species.

Gen. **Aphantotropis** Uvarov 1924.

1924. *Aphantotropis* Uvarov, Ann. Mag. nat. Hist. (9), 14: 617. Generic type: *Aphantotropis connectens* Uvarov 1924.

Body depressed, large and extremely robust, strongly granulose and rugulose. Antenna thin, almost filiform, slightly compressed, with uniform segmentation. Head nearly spherical. Fastigium of vertex wide, sloping forwards, with apex almost roundly marging with frons, which, in profile, is slightly excised below ocellus, and slightly sloping backwards; frontal ridge low, widened at ocellus, sulcate above it. Pronotum weakly tectiform, slightly widening backwards, with weak linear median carina, which is obliterate in posterior half of metazona; lateral carinae absent; only one transverse sulcus crossing pronotum dorsally, where there is slight saddle-shaped depression; posterior margin of metazona acutangulate.

Prosternum with low collar, in the middle with small, tubercle-like and apically bilobate, projection. Elytron and wing (in male, female unknown) well developed, far exceeds end of abdomen. Hind femur strongly compressed, with extremely widened margins; upper margin serrated with small acute, lower margin with small obtuse, teeth. Apical segment of anterior and middle tarsi slightly and that of posterior tarsus strongly inflated. Abdominal stridulatory organ present. Male subgenital plate short, subconical. Cercus simple, narrowly conical, compressed; supra-anal plate, with acutangulate apex and wide longitudinal sulcus.

Apical valves of penis short inflated, with suddenly narrowing apex. Epiphallus wide, with angularly projecting posterior margin.

Only one species and one male of the genus is known. According to the shape of head, hind femur, stridulating organ and phallic complex the genus is near to *Trachypetrella,* but differs strongly in shape of pronotum, inflated apical segments of tarsi and macropterism.

Aphantotropis connectens Uvarov 1924 (Fig. 36).

1924. *Aphantotropis connectens* Uvarov, Ann. Mag. nat. Hist. (9), 14: 617. Type ♂. R. Hinamangando, S. of Cape St. Martha, Angola. British Mus. (Nat. Hist.)

♂ Type. Large, with granulose and rugulose integument. Fastigium of vertex flat, granulose, with obtuse edges. Pronotum in prozona convex at basal sulcus depressed and in metazona again slightly convex.

General colouration sandy-ochraceous (specimen discoloured by previous preservation in liquid). Wing in basal part slightly ochraceous with blackish venation and reticulation in apical part. Hind tibia of the same colour as body (possibly discoloured).

Length of body 62, pronotum 25, elytron over 60 (apex broken), hind femur 15 mm.

Specimens examined:

Angola: River Hinamangando, S. of Cape St. Martha, 1 ♂, type, 1 ♀ nymph are known.

*

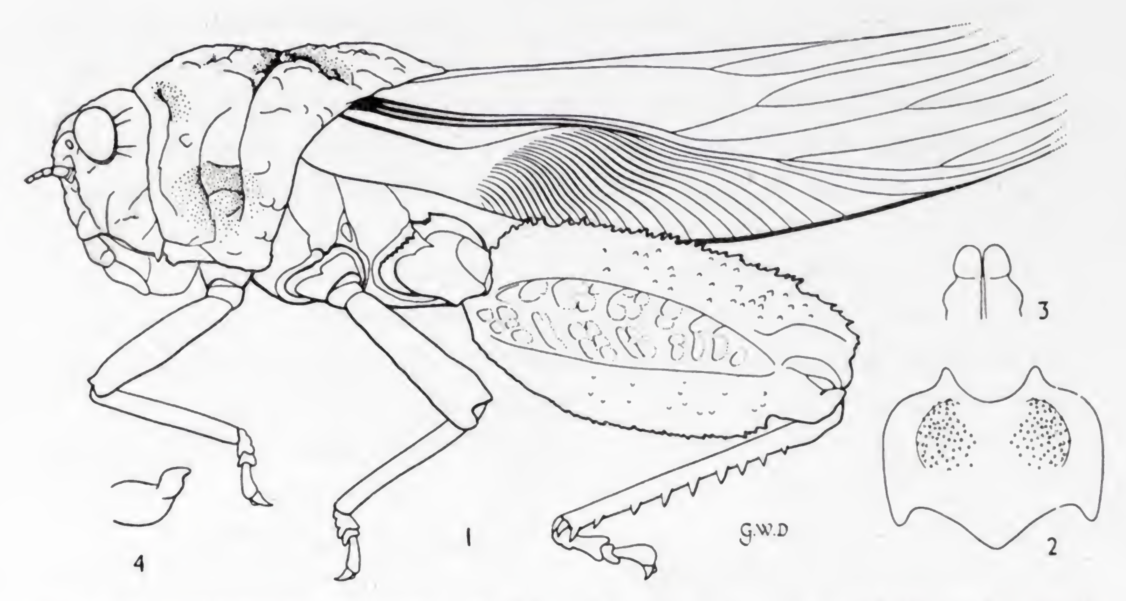


Fig. 36.—*Aphantotropis connectens* Uv. 1, male, type. 2, epiphallus. 3, apical valves of penis from above. 4, ditto, lateral view.

Gen. **Trachypetrella** Kirby 1910.

1875. *Methone* (nom. preoc.). Stål, K. Svensk. Vet. Akad. Hand., 3 (14): 34.
1887. *Trachypetra* Karsch (nom. preoc.), Ent. Nachr., 13: 41.
1910. *Trachypetrella* Kirby (nom. nov.), Syn. Cat. Orth.: 3: 292.

Generic type: *Methone anderssonii* Stål 1875.

Body depressed, large and extremely robust. Antenna thin, almost filiform, slightly compressed, with uniform segmentation. Head nearly spherical. Fastigium of vertex wide, sloping forwards, with apex roundly merging with frons. Frons in profile, straight, sloping backwards, frontal ridge long, flat, widened at ocellus. Pronotum weakly tectiform, widening backward; median and lateral carinae indistinct. Prosternum with low collar, with small bifurcate projection in middle. Anterior and middle femora compressed; middle femur with teeth on both margins; hind femur strongly compressed, with strongly widened margins; upper margin with acute teeth, lower irregularly, obtusely serrated. Elytron lobiform, lateral present in both sexes. All abdominal tergites, with small obtuse apical teeth. Tympanal organ large, open. Abdominal stridulatory organ present in both sexes. Male subgenital plate short, subconical, cercus simple, narrow, slightly incurved, narrowing towards apex. Supra-anal plate wide, angulate in

both sexes. Female subgenital plate with broadly rounded apex. Valves of ovipositor short, slightly curved.

Apical valves of penis short, inflated with small, suddenly narrowing apex. Epiphallus wide, with angularly projecting posterior margin.

A most peculiar character of the genus is that the female has elytra similar to male, differing from it only in sexual characters and larger body size.

Two species of this genus are known, but it is possible that they represent only local or individual variations.

I have studied the type of *T. anderssonii* St., but the type of *T. rana* Sauss. is not available. Saussure differentiated them by the following key:

a. Prosterni margo in medio productus, incisus, vel bidentulus. Femora post. quam latiora minus quam duplo longiora. Pronotum retro valde ampliatum. .... **anderssonii** St.

a.a. Prosterni margo in medio, bispinuloso, dentibus teretibus. Femora post. quam latiora duplo longiora. Pronotum retro modice ampliatum. ....
.... **rana** Sauss.

Trachypetrella anderssonii (Stål 1875) (Fig. 37).

1875. *Methone anderssonii* Stål, K. Svensk. Vet. Akad. Handl., 3 (14): 34. Type ♀. Damaraland, S.W. Africa. Stockholm Mus.

1887. *Trachypetra mola* Karsch, Ent. Nachr., 13: 43. Type ♀. Damaraland. Berlin Mus.

♂. Large, with strongly granulose and rugulose integument. Fastigium of vertex flat, granulose, forming small lateral projections in front of eyes. Pronotum dorsally crossed by two weak sulci; posterior margin slightly corrugated with a short projection in the middle. All abdominal tergites with very small obtuse apical teeth. All legs covered with sparse, moderately long, hairs.

General colouration brownish or sandy. Internal and lower sides of hind femur and hind tibia blue, mostly dark blue with slight purple tinge.

♀. As the male, but larger.

Length of body ♂ 44-57, ♀ 56-75; pronotum ♂ 14-16, ♀ 16.5-19; elytron ♂ 15.5-20, ♀ 13.5-16.5; hind femur ♂ 19-29, ♀ 28.5-34.5 mm.

Specimens examined:

S.W. Africa: Damaraland, 2 ♀ (including type). Muskietkolk, 2 ♀. Grensplaas, 2 ♀, 1 ♂. Warmbad, 1 ♂ (J. C. Faure). Richtersveld, 1 ♂.

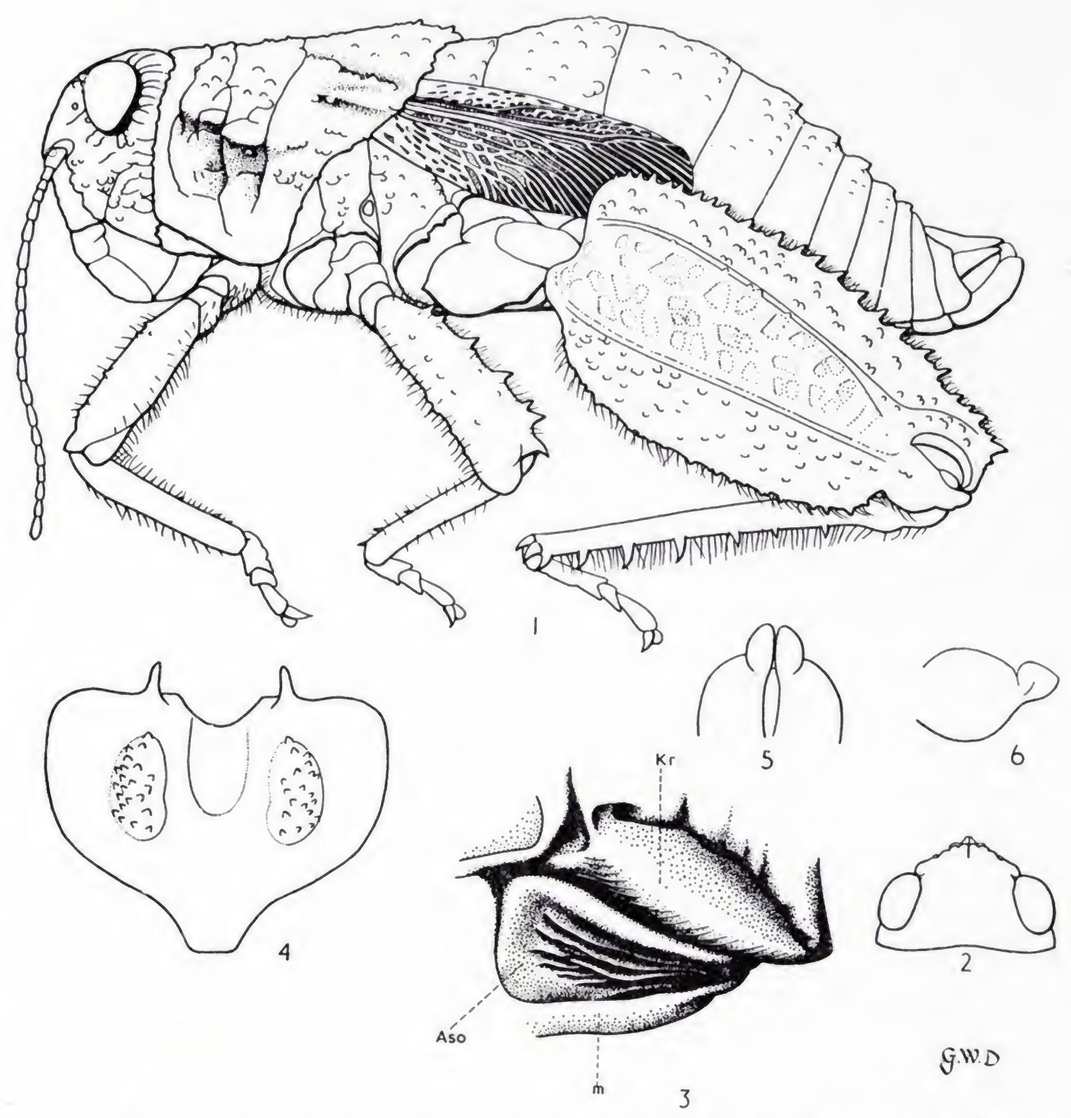


Fig. 37.—*Trachypetrella anderssonii* (St.). 1, male. 2, head from above. 3, Krauss' organ, Kr.; abdominal stridulatory organ, Aso; lateral intersegmental membrane, m. 4, epiphallus. 5, apical valves of penis, from above. 6, ditto, lateral view.

Orange Free State: Bloemfontein, Gordenia, 1 ♂, 1 nymph (J. C. Faure).

Cape Province: Steencamp Puts, 37 m. N. Upington, 1 ♂.

The species according to the small studied series, varies in body size, more or less developed sculpture of pronotum, which sometimes is almost smooth, sometimes extremely granulose, with ridges and with a tendency to form median and lateral carinae. The internal and lower side of hind femur and hind tibia in half of the specimens are light red in others blue. This colouration is not connected with locality and is probably an individual variation.

Trachypetrella rana (Saussure 1888).

1888. *Methone rana* Saussure, Addit. Pdrodr. Oedip.: 156.
1888. *Methone fallax* Saussure, l.c.: 158. Type ♂ lost. Terra namaquensis, S.W. Africa.

From the description alone it is difficult to decide wheter *T. rana* is a separate species or only a variation of *T. anderssonii.*

Nomina morta.

The following is a list of names of the described species the identity of which it is not possible to establish.

Xiphocera obsoleta Kirby 1902, Trans. ent. Soc. Lond.: 97. Type ♀ nymph. Pretoria, Transvaal. British Mus. (Nat. Hist.)

Xiphocera paupercula Kirby 1902, l.c.: 95. Type ♀ nymph. Pretoria, Transvaal. British Mus. (Nat. Hist.)

Xiphocera angolensis Saussure 1887, Spic. Ent. Genav.: 31, 47, p. 8, 8a, b. Type ♀ nymph. Angola. Madrid Mus.

Xiphocera spinulosa Saussure 1887, l.c.: 31, 40. Type ♂. Natal. Type lost.

Xiphocera peringueyi Saussure 1888, Ann. Soc. ent. Fr. (6), 8: 157, pl. 5, p. 4, 4a-c. Type ♂. Namaqualand. Type lost.

Xiphocera menyharthi Brancsik 1895, Jahrs. Nat. Ver. Trencs. Com.: 252, pl. 8, p. 3a-d. Type ♂. "Regione fluvii Zambezi". Type lost.

Pamphagus euryscelis Schaum 1853, Berl. Verh. Acad. Wiss., 2: 779. Type ♂ ♀. Mozambique. Type lost.

A female specimen with Schaum's label "*euryscelis*" preserved in Berlin Museum, does not agree with the original description nor with the figure of the female, which he published in 1862. This must be an error in labelling.

INDICE DEL TOMO XXXIV

El volumen XXXIV (1958) de EOS se ha publicado en cuatro cuadernos:

El 1.º, que comprende las páginas 1 a 98, el día 31 de marzo; el 2.º, que comprende las páginas 99 a 204, el día 30 de junio; el 3.º, que comprende las páginas 205 a 298, el día 15 de octubre, y el 4.º, que comprende las páginas 299 a 402, el día 31 de diciembre.

REVISTAS DEL PATRONATO «SANTIAGO RAMON Y CAJAL»

ANALES DE BROMATOLOGIA.—Publicación de la Sociedad Española de Bromatología.

Recoge esta revista los trabajos sobre alimento efectuados en diversos Institutos del Consejo Superior de Investigaciones Científicas.

Trimestral. Ejemplar: 35 pesetas. Suscripción: 120 pesetas.

ANTROPOLOGIA Y ETNOLOGIA.—Publicación del Instituto "Bernardino de Sahagún".

Revista dedicada a la Antropología, Etnología y en general a las Ciencias del Hombre; Trabajos originales; Noticiarios; Reseñas bibliográficas.

Semestral. Ejemplar: 60 pesetas. Suscripción: 100 pesetas.

ARCHIVO DE LA SOCIEDAD OFTALMOLOGICA HISPANO-AMERICANA.

Son sus colaboradores todos los miembros de la Sociedad Oftalmológica, sin que ello excluya otras colaboraciones, y sus páginas se verán honradas con la aportación de los médicos, naturalistas, físicos, químicos y, en general, de todo cuanto pueda contribuir al mejor conocimiento de esta ciencia.

Mensual. Ejemplar: 20 pesetas. Suscripción: 210 pesetas.

ARCHIVO ESPAÑOL DE MORFOLOGIA.—Publicación del Instituto Nacional de Ciencias Médicas.

Publica trabajos de Morfología general, Anatomía y Embriología. Dedica una sección a referata de los trabajos de las especialidades que cultiva, así como a la crítica de libros.

Bimestral. Ejemplar: 25 pesetas. Suscripción: 120 pesetas.

ARCHIVO DE MEDICINA EXPERIMENTAL.—Publicación del Instituto Nacional de Ciencias Médicas.

En esta revista, ilustrada con numerosas fotografías de los casos de experimentación, se reunen todos los trabajos que se realizan en las distintas Secciones del Instituto Nacional de Ciencias Médicas.

Cuatrimestral. Ejemplar: 30 pesetas: Suscripción: 75 pesetas.

GALENICA ACTA.—Publicación del Laboratorio de Farmacia Galénica.

Recoge en sus páginas la investigación realizada sobre temas que interesan a farmacéuticos y médicos, ocupándose en la correcta preparación y valoración de los medicamentos y en el de las formas farmacéuticas más apropiadas para su administración, y abarca un amplio conjunto de cuestiones con la Química, Farmacología, Terapéutica y técnica industrial.

Trimestral. Ejemplar: 40 pesetas. Suscripción: 150 pesetas.

GRAELLSIA.—Publicación del Instituto Español de Entomología.

Destinada a relacionar entre sí a todas aquellas personas que, sintiendo una afición a los estudios sobre insectos, carecen de medios de orientación y guía. Publica Secciones de Entomología general y Entomología aplicada.

Anual. Ejemplar: 40 pesetas. Suscripción: 35 pesetas.

REVISTA ESPAÑOLA DE FISIOLOGIA.

Publica trabajos de investigación sobre temas de Fisiología humana, normal y patológica, Fisiología animal y comparada, y Bioquímica. Inserta, a continuación de los originales, un resumen de los mismos en idiomas extranjeros. La sección de libros recibidos publica notas críticas de cuantos, españoles o extranjeros, se envíen a la redacción de la revista.

Trimestral. Ejemplar: 50 pesetas. Suscripción anual: 150 pesetas.

REVISTA IBERICA DE PARASITOLOGIA.—Publicación del Instituto Nacional de Parasitología.

Dedicada a cuestiones relacionadas con la parasitología en la Península Ibérica y sus colonias. Organo de publicidad de las investigaciones realizadas por la Sección de Helmintología del Instituto "José de Acosta".

Trimestral. Ejemplar: 25 pesetas. Suscripción: 100 pesetas.

TRABAJOS DEL INSTITUTO CAJAL DE INVESTIGACIONES BIOLOGICAS.—Publicación del Instituto "Santiago Ramón y Cajal".

Revista micrográfica. Anual. Suscripción anual: 200 pesetas.

Depósito legal—M-683—1958

SUMARIO DEL CUADERNO 4.º



S. AGUIRRE TORRE - TEL. 23 03 66 - MADRID